Combating Academic Misconduct: What Can Journals Do?

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Abstract

In recent years, incidents of academic misconduct in China have occurred with increasing frequency, drawing widespread societal attention. As a vital medium for academic exchange, journals play a pivotal role in curbing such misconduct. Currently, certain initiatives have emerged to issue early warnings regarding international journals, considering factors such as article processing charges and the degree of author internationalization; these constitute an external regulatory mechanism. Concurrently, journals themselves must also proactively prevent potential instances of academic misconduct. Only through the concerted efforts of research administrators, academic personnel, and publishers can academic misconduct be effectively combated, thereby fostering the healthy development of the research ecosystem.

Full Text

Preamble

Fighting Against Scientific Misconduct: What Can a Journal Do?

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As scholarly journals increasingly retract large numbers of papers, scientific misconduct in academia is receiving escalating public attention. In 2017, 107 papers in *Tumor Biology* were retracted after it was discovered that their peer reviews had been fabricated by third-party companies (Stigbrand 2017). Similarly, the *European Review for Medical and Pharmacological Sciences* retracted 86 papers in 2020 (Data source: Retraction Watch, http://retractiondatabase.org/) because these papers were believed to have been produced by paper mills.

Furthermore, as COVID-19 swept across the globe, vast numbers of related papers were rushed to publication in journals and preprint repositories (Soltani and Patini 2020). During this compressed publication cycle, journal quality control systems were severely challenged, with some papers being withdrawn just days after publication, even in prestigious journals such as *The Lancet* and the *New England Journal of Medicine*. Such incidents can damage scientific credibility and raise concerns about actions taken based on these subsequently retracted studies (Ledford and Van Noorden 2020).

Should scholarly journals bear responsibility for publication retractions? The answer depends on the circumstances. In some cases, authors themselves may not initially recognize errors in their studies, and corrections are issued once mistakes are identified. While some negligence could be prevented, it must be acknowledged that no research is perfect and unintentional errors do occur. Such retractions typically do little damage to a journal' s reputation. However, large-scale retractions from a single journal may reveal deficiencies in its quality control processes, and consequences must be faced in such cases. For instance, after fabricated peer reviews were discovered in *Tumor Biology*, Clarivate Analytics announced that the journal' s papers would no longer be indexed in Web of Science effective July 19, 2017 (McCook 2017). This meant that *Tumor Biology* would be deselected for Web of Science coverage and would lack an impact factor in the 2017 Journal Citation Reports.

In essence, scholarly journals serve academia as transparent and permanent forums for presenting, scrutinizing, and discussing research. While publisher capital has advanced knowledge dissemination, it has also transformed academic publishing into a business. Without proper regulation and supervision, the dark side of business—venality—can lead to devastating scientific misconduct on a large scale. In 2020, China' s Ministry of Science and Technology (MOST) proposed improving early warning mechanisms for academic journals in an official document, aiming to penalize untrustworthy and predatory journals. In response, the Chinese Academy of Sciences developed an Early Warning List of International Journals at the end of 2020 (Petrou 2021), considering multiple factors—particularly challenges currently facing Chinese academia—including scientific misconduct, reasonable article processing charges (APC), degree of internationalization, and risk of quality decline. Similar warning lists have been issued by local institutions and universities to guide researchers in journal selection.

In this context, academic journals should adhere to ethical principles to ensure the healthy development of science. Numerous guidelines currently exist to regulate journal conduct. For instance, the Committee on Publication Ethics (COPE), an established international organization dedicated to promoting best practices for journals and publishers since 1997, supports its members with advanced knowledge to safeguard the integrity of the scholarly record. Extensive guidelines and use cases are available on its website (https://publicationethics.org/). At the national level, misconduct policies

play a crucial role in preventing and policing scientific misconduct, though definitions of research misconduct vary across countries (Resnik et al. 2015), a mismatch that can lead to potential problems as reported in *Science* (O' Grady 2021).

Finally, considering disciplinary differences, specific actions should be taken to promote research and publication integrity. The biomedical field, for example, has been severely impacted by paper mills and related misconduct. Since image manipulation is frequently committed in such cases, image integrity should be taken seriously in publications containing numerous figures. The *International Journal of Cancer*, which publishes experimental and clinical cancer research, has checked image integrity for accepted papers since 2017; in 2019, it began this verification at the first revision stage and required authors to provide raw image data (Heck et al. 2021). These practices effectively reduce the threat of figure fabrication and control the risk of scientific misconduct at early stages.

The battle against scientific misconduct is unlikely to end soon, as fraudsters grow more sophisticated once detected, and this arms race may continue indefinitely (Else and Van Noorden 2021). Therefore, research managers, scientists, and journal publishers must remain vigilant at all times and combat scientific misconduct comprehensively.

References

Else, H. & R. Van Noorden (2021) The fight against fake-paper factories that churn out sham science. *Nature*, 591, 516-519.

Heck, S., F. Bianchini, N. Y. Souren, C. Wilhelm, Y. Ohl & C. Plass (2021) Fake data, paper mills, and their authors: The International Journal of Cancer reacts to this threat to scientific integrity. *International Journal of Cancer*, 149, 492-493.

Ledford, H. & R. Van Noorden (2020) High-profile coronavirus retractions raise concerns about data oversight. *Nature*, 582, 160-161.

McCook, A. (2017) When a journal retracts 107 papers for fake reviews, it pays a price. Retrieved from https://retractionwatch.com/2017/08/16/journal-retracts-107-papers-fake-reviews-pays-price/

O' Grady, C. (2021) What is research misconduct? European countries can' t agree. Retrieved from https://www.sciencemag.org/news/2021/03/what-research-misconduct-european-countries-can-t-agree

Petrou, C. (2021) Guest Post –An Early Look at the Impact of the Chinese Academy of Sciences Journals Warning List. Retrieved from https://scholarlykitchen.sspnet.org/2021/04/14/guest-post-an-early-look-at-the-impact-of-the-chinese-academy-of-sciences-journals-warning-list/

Resnik, D. B., L. M. Rasmussen & G. E. Kissling (2015) An international study of research misconduct policies. *Accountability in Research*, 22, 249-266.

Soltani, P. & R. Patini (2020) Retracted COVID-19 articles: a side-effect of the hot race to publication. *Scientometrics*, 125, 819-822.

Stigbrand, T. (2017) Retraction Note to multiple articles in *Tumor Biology*. *Tumor Biology*.

Note: Figure translations are in progress. See original paper for figures.