

The Peer-Review System and Ethical Standards in Publishing

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Abstract:

Compliance with ethical standards in publication continues to be a major concern to editors of journals. Ethical issues involve authors, editors and reviewers of manuscripts. Publication misconduct occurs when standard ethical guidelines are not adhered to. The majority of ethical violations happen among authors when they do not follow accepted practice standards. The peer-review process captures most potential ethical breaches. The violations occur during manuscript submissions and appear in the form of deviations in authorship, conflicts of interest and duplication of publication.

Keywords: Authorship misconduct; conflicts of interest; copyrights; duplicate/redundant publication; peer review

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Background

It is estimated that over 1.5 million peer-reviewed articles are published every year.¹ A 2007 survey of scientific and medical literature sources yielded 1717 journals. According to the Directory of Open Access Journals (DOAJ) listing, as of 2008 about 3360 journals were available. The open-access (OA) model of publishing has enabled access to peer-reviewed articles without requiring subscription. The model allows anyone who has access to the Internet to read articles freely.²

Publication of a research article is a culmination of months and years of planning of a scientific project and carrying out studies and experiments. It is expected that the outcome of these projects is reported honestly, objectively and fairly. Despite expectations and a dense web of mechanisms in place to help the process, ethical breaches do occur. A scientific investigator has to resist temptations of ethical breaches while conducting research and reporting results emanating from it.³ The peer-review system serves as a filter to select for publication valid, significant and original research work.¹ Despite the system, some flawed papers make it to the final print from time to time. The litmus test of scientific fraud is the detection of intention to misguide, but determination of such behavior is hard to pin-point.⁴ Ethical issues revolve around plagiarism, duplicate publishing and authorship controversies. In the period 1992-2001, the Public Health Service Office of Research Integrity (ORI) identified 111 cases of scientific misconduct. Of these, 63 resulted in retractions, with the rest addressed through publication of errata, letters to the editor, or corrections. Although journals publish correction under the headings corrigendum, retraction and rectification, the latter do not convey the actual level of infraction.⁵ Fraud or misconduct can occur for reasons of status, power, fame or circumstances of environment such as competition, pressure to get published, inadequate supervision and for student researchers to acquire grades in courses. Fraudulent publication manifests as plagiarism, fabrication or falsification.⁶ In research manuscripts, serious misconduct includes data fabrication, falsification, inappropriate image manipulation or plagiarism.⁷ Plagiarism is a major ethical violation of truthfulness, which usually involves stealing intellectual property or taking undue credit.⁶ Editors and reviewers play a unique role in resolving such allegations of misconduct or calling on institutions where the work was done, or the funding agency of the project to further investigate.⁷ The Committee on Publication Ethics (COPE) is an international forum of editors of peer-reviewed journals which attempts to address all aspects of publication ethics, including how to handle misconduct. It has published an array of flowcharts to help editors handle and resolve misconduct issues.^{1,7} In this paper, a brief discussion on the peer-review system is provided, followed by clarification of ethical issues.

The peer-review process

Peer-review is not a perfect system. It relies heavily on trust. Yet, this trust can be breached at various stages and in varying degrees. Peer-review is the first barrier to fraud and misconduct.¹ Peer-reviewed journals are also called refereed or juried journals, because experts in the particular field get to review the manuscript and advise editors on

the merits, improvement or acceptability of a submitted manuscript.⁸ Before selection of referees, journal editors review the manuscript for suitability, format, length, clarity of discussion, and research methods and for compliance with the interests and scope of the journal. The manuscript is then passed to the assigned (handling; corresponding) editor. In most cases, the editor-in-chief may make the final decision on the acceptability of the manuscript.¹ In order to avoid bias in evaluating a paper, in most cases a double-blind system where the names of the author (s) and the reviewer (s) are not known to each other, is used. This process confers objectivity to the process of evaluation. It must be pointed out that not everything published in a peer-reviewed journal is peer-reviewed. For example, news items, editorials, letters, and book reviews are not peer-reviewed.⁸ Selection of reviewers is accomplished via different avenues: from the bibliography of the submitted manuscript; on-line database search of citations and abstracts related to the subject; editors who know experts in the field; from among the Editorial Board of the journal.¹ Alternatively, editors may wish to maintain a database of qualified reviewers.⁷ Should they have conflict of interest to hamper fair evaluations, reviewers should decline invitations. Editors should ask for disclosure of statement from all authors and reviewers of an article. Journals rarely accept papers based on only one review. Honesty is required of reviewers to avoid conflict of interest, where intense competition may occur between an expert reviewer and authors of a manuscript. For example, a reviewer may not complete evaluation in time, so to advantage one's own work in a similar area be published first. Temptations may also arise among reviewers to steal ideas, boost favored theories, or torpedo rivals. Reviewers hold a unique position and are expected to perform in a professional and ethical manner. The overarching purpose in refereeing a manuscript is to provide helpful criticism with the idea of improving the quality of the paper.¹

If fabrication of data is suspected by a reviewer in a submitted manuscript, the author (s) may be contacted by an editor with the appropriate evidence, and if proven true, the manuscript is rejected or may even lead to alerting the authors' institution to initiate investigation.⁷ If a paper has already been published by a journal and at a later date if a reader brought forth evidence of cooked-up data, a retraction may be published by the same journal and the institution of the author may be requested to initiate investigation. Error could creep in research and honest mistakes can occur in research. Fraud, on the other hand, is a grave violation since the researcher exactly knows what he/she is doing. Fraud may show as publishing data which support a pre-conceived and formulated hypothesis, while concealing or omitting negative data, so called cooking data or trimming data. Outright fabrication of results is intentional and misleading. As a result of such behavior, the public loses trust in science and other scientists. Consider, for example, health practitioners treating patients relying on false data. The results could indeed be devastating.⁴ In post-publication peer review, experts may continue to comment on, scrutinize and rate research articles.¹ Editors should encourage comments on published articles, and offer a chance to authors to respond to such comments before they decide to publish them.⁷

Authorship misconduct

Ethical issues related to authorship mainly revolve around inclusion of authors who did not contribute substantially to the manuscript (gift authorship) and exclusion of authors who contributed significantly (ghost authorship). Three conditions must be met to

qualify for authorship: substantial contribution to the work; drafting of the manuscript; and revising it critically prior to final publication. Gift authorship fails these criteria. Senior colleagues are included as co-authors just to please them, or just to enhance the prestige and acceptability of the manuscript, which is unethical behavior. By doing so, junior colleagues expect their favor will be returned somehow. On the flip side of this, junior colleagues (ghost authors) who have substantially contributed to a work may be deliberately left out, with a motive of taking greater credit on the part of senior colleagues. This scenario applies mostly to post-graduates, post-doctoral trainees and visiting researchers, whose contributions are belittled or dismissed as mere collection of data, supply of biological specimens, providing reagents or similar unjustifiable reasons.⁹

Having open collegial discussion among researchers at the inception of the project and clear up to the time writing the manuscript avoids authorship controversies. Since research is mostly collaborative involving individuals and multiple institutions, publications coming out of such collaborative work are multi-authored. Hence, problems arise as to inclusion, exclusion and order of authors. In many disciplines, the earlier the name of an author appears, the greater is the degree of contribution. It is not also unusual that a scientist with reputable name recognition appears in every publication that comes out of the laboratory he/she leads. On the other hand, in some disciplines, the well established supervisor's name comes last in order to give the younger up-coming colleagues a boost in their status. And yet, some research groups and journals prefer just listing of authors alphabetically. The inclusion of so-called "honorary authors", despite the fact that they had little or nothing to do with the work to be published, diminishes the contribution of the other authors who actually did the bulk of the work.⁴

The case of multiple-authorship is often justifiable in an interdisciplinary and multi-center research work outputs. On the other hand, inclusion of an author in a paper may also be driven by personal desire for professional advancement, tenure, prestige and fame. There is also a constant pressure in academia to publish (so-called "publish or perish" dictum) for academic promotion. Unfortunately, the latter are not uncommon reasons for authorship misconduct. The famous "publish or perish" notion which began in the 1960's came about as a result of requirements for researchers in academia and other institutions to publish in order to be funded. So came the cycle of "research publication, promotion, prestige, and more research money." Gift authorship (honorary authorship) which is unjustified and undeserved authorship came as a result of pleasing senior researchers, expecting something in return. Pressured authorship is a veiled misconduct where a person is included as a co-author because of position or authority rather than contribution. On the other hand, ghost authorship (uncompleted authorship/denial of authorship) is omission (non-inclusion) of individuals who took a significant part in a work to qualify as a co-author.¹⁰

Editors of journals do not decide the authorship of a paper; such decision rests with the authors themselves. Journals, however, require that all authors confirm their contribution. Some journal editors might even go to the extent of quizzing secondary authors to determine how familiar they are with the manuscript being considered for publication.¹¹ Yet, some journals require that each author's contribution be stated in the final published article.⁶ If an authorship dispute arises after publication of an article, the editor should contact the corresponding author to establish the veracity of complaints and take an appropriate action.⁷

Conflicts of interest

The concept of conflicts of interest applies to authors, editors and reviewers. If an editor is an author of a peer-reviewed article, he/she should be excluded in making publication decision on the article. Editors should require that all authors and reviewers of a manuscript complete disclosure statements related to a manuscript. Whenever deemed significant, the authors' conflicts of interest should be published along with the article.³ Readers can also benefit from transparency, including disclosure of authors' affiliations and interests. Conflict of interest may have different manifestations: personal like/dislike of the author (s), commercial interest or sheer academic rivalry. In general, although not explicitly stated there is always a likelihood of some degree of such conflicts. It is also likely that even without authors' names, reviewers can surmise, in a narrow field, who the authors of a manuscript might be. In some journals, authors are allowed to name non-preferred reviewers of their manuscript to avoid conflicts of interest. In general, reviewers act in an honest, responsible and professional manner to avoid conflict of interest.¹² An author is expected to be objective in reporting findings, and editors and reviewers need also to be objective in evaluating manuscripts. If authors, editors and reviewers hold competing interests, improper decisions can occur. Disclosure of potential conflict of interest is required of all parties. Conflicts of interest include financial interests, such as patent ownership, stock ownership, consultancies, speakers' fees, and other personal, political, academic, or religious interests. To convey transparency, research funding agencies should be listed on all papers.⁷

Duplicate publication

Duplicate publication is defined as publication of an article that is identical or overlaps with an already published article with or without an acknowledgement. Two papers in a duplicate publication may convey the same hypothesis, results and conclusion. To camouflage difference, the same authors may appear in a different sequence in a duplicate publication. Such behavior is considered self-plagiarism. Good publication ethics requires that authors submit their manuscript to one journal at a time. The same or a further revised version can be submitted to another journal only after the first journal decides not to publish it, or after its withdrawal by the author (s). Despite this common accepted practice, double submission is still a problem in scientific journals.^{3,6}

Duplicate submission, duplicate publication, competing submissions and sibling publications are all ethical violations, except in some instances. Simultaneous submission may lead to copyright problems among journals, unnecessary duplication of peer review and editing. Duplicate publication is redundancy and a waste of time for reviewers, editors. It also leads to infringement of copyrights, not to mention indexing and abstracting complications. Sibling publication, also known as "salami publication," occurs when related papers are submitted to different journals without cross citation, with a deliberate purpose of increasing publication counts. Seemingly separate publications can be consolidated into one publication, instead of separate or fragmented publications. Redundant publication (shot-gunning) occurs when a work is published in different journals with little or no difference in content. It is sometimes considered synonymous with duplicate publication.¹⁰ Re-publishing a part or parts of an already published material is repetitive and violates the copyrights associated with the original publication.

According to COPE, full disclosure of an abstract of proceedings of meetings is required at the time of submission of the manuscript; otherwise, it is considered redundant publication. Re-publication of data in a different language other than the language in which it was published is acceptable so long as the original source is clearly indicated. COPE emphasizes that all details of previous published related papers and even those in press by the author (s) be disclosed at the time of submission of a manuscript.³

Conclusion

Despite the peer-review system and instructions laid out in journals, ethical violations do occur in publications. These violations pertain to authorship misconduct, failure to disclose conflicts of interest and duplicate submission or publication. Authors, reviewers and editors should be vigilant in avoiding and detecting ethical breaches.

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