

Konuk Yazar / Guest Author

Authorship Rights in Scientific Publication and Problems

Bilimsel Yayında Yazarlık Hakları ve Problemler

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Abstract

While authorship is the key to science and academic career and confers reputation and credit to the author, it also places significant responsibility on the author. Ethical deception and fraud in scientific publications not only casts doubt on the integrity of science, but also weakens public support. Research results are published with the names of all individuals who have carried out the research. Although there are variations depending on the fields of study, the general rule is that everyone who has substantially contributed to the research and publication are given credit as authors. Activities such as obtaining funding, language editing, technical editing, or administrative support do not qualify an individual for authorship. However, despite clear guidelines, forms of ethical misconduct such as granting authorship to those who fail to meet the authorship criteria, omission of deserving authors from the author list and making inappropriate and unjustifiable modifications to the author list are prevalent. One way to solve these problems would be to determine and document the list and order of authors, and require the signatures of all authors in the planning stage, even before starting to do the research and write the manuscript.

Keywords: *Authorship ethics; publication ethics; misappropriation of authorship; authorship rights; responsibility of authorship.*

Öz

Yazarlık bilim ve kariyerin anahtarı olup bilim insanına saygınlık ve kredi kazandırırken aynı zamanda sorumluluk da yükler. Bilimsel yayınlarda etik yanlışlıklar hem bilime zarar verir hem de kamuoyu desteğini zayıflatır. Araştırma sonuçları araştırmayı yapanların tümünün isimleri ile yayınlanır. Değişik bilim alanlarında farklılıklar göstermekle birlikte genel kural, çalışma ve yayına önemli katkı sağlayanların yazar olarak gösterilmesidir. Bir çalışmaya sadece yazılım aşamasında katkı verme, fon sağlama, dil denetimi, teknik düzeltme ve yönetsel destek yazarlık hakkı sağlamaz. Yazar listesinin neresinde yer alırsa alsın tüm yazarlar yayının sonuçlarından sorumludur. Ancak oldukça açık biçimde belirtilen yönlendirici

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ilkelere rağmen, bilimsel bir yayında yazarlık hakkı olmayanların isimlerinin yazar olarak gösterilmesi, hakkı olanların yazarlar listesine alınmaması, yazar sıralamasının uygun olmayan şekilde ve gerekçesiz değiştirilmesi azımsanmayacak kadar sık görülmektedir. Planlama aşamasında, makale yazımına hatta araştırmaya başlamadan önce yazarlar listesi ve sıralaması belirlenip imza altına alınması sorunları çözebilir.

Anahtar Sözcükler: *Yazarlık etiği, yayın etiği, haksız yazarlık, yazar hakları, yazar sorumluluğu.*

Authorship Rights in Scientific Publication and Problems

Ethics is one of the cornerstones of academic life. Over the years, information and technology systems have developed, the number of scientific fields have increased, and the ways and methods to make use of resources have evolved in formerly unprecedented ways. The unchanging element has been the integrity of the scientific information. Scientific publication has a significant role in the spread of scientific knowledge, the emergence of new questions through discussion, and the proliferation of new contributions.

Authorship in scientific publications brings serious responsibility along with reputation and respect. Scientific communication is one of the main components of science. Therefore, scientists are to share what they have produced, and the results of their research with the public. In that sense, the unpublished study is an unfinished study. The researcher can benefit from a publication in a number of ways such as receiving credit and reputation, gaining academic promotion, obtaining financial gains (ICMJE), securing grants or funds, obtaining and developing information, establishing network connections, exchanging ideas, and carrying the study to an international level of discussion, all of which may help drive success. In many academic medical centers, promotion and salary decisions are made on the basis of publication and authorship (Wallace and Siersema, 2005, p. 441). The determining factor in all these cases is whether one is given credit in scientific publication, which means being an author of the paper or by being acknowledged in the paper.

Authorship in a Scientific Paper

Although the definition of what entails authorship is quite clear, various practices in assigning authorship status can be observed in different science disciplines and cultures. Nevertheless, an author is a person who has made a substantial intellectual contribution to the study. Authors must have accountability for the entire paper and be able to defend or discuss it when the need arises (ICMJE). Various scientific disciplines identify and announce authorship rights and responsibilities. Editors of some medical journals have identified criteria to be met in papers that are sent to the journals. The International Committee of Medical Journal Editors (ICMJE), also known as the Vancouver group, has, over the years, updated the criteria for authorship that they first identified in 1997. Based on these criteria and guidelines, many journals announce their own principles and criteria to the prospective authors. The 4 criteria for authorship as recommended by ICMJE are:

- *Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND*
- *Drafting the work or revising it critically for important intellectual content; AND*
- *Final approval of the version to be published; AND*
- *Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved” (ICMJE).*

According to ICMJE guidelines, all 4 criteria for authorship should be met by all authors of a paper. These criteria address the question of who deserves to be designated as an author. An author not only is responsible for the contribution s/he made to the study, but also should

be able to identify the specific contributions of each co-author in the study (ICMJE). While ICMJE acknowledges that an author alone may not be held responsible for all parts of the paper, it recommends one author to act as the “guarantor” of the manuscript, who should preferably be the corresponding author of the paper (Wallace and Siersema, 2005, p. 442).

Responsibilities of the Author

Authors of a paper should meet the criteria for authorship, determine the order of authors, ensure the integrity of the results of the study, contribute to the use of relevant sources in the paper, and contribute to the literature review in the relevant field. Authors are also responsible for receiving editor and reviewer evaluations, and informing the editor about potential issues of conflict of interest and about the names of the organizations and institutions that provide support for the study (Coats, 2009, p. 149). Another responsibility is to make sure that the paper is not submitted to more than one journal.

Authorship Order

Because there is no precise scale that can be used to measure the individual contributions to a paper, the issue of proper ordering of authors remains controversial. Various practices in determining the order of authorship have been employed including alphabetical ordering or designating the head of department of the relevant field as the first author. Developments such as the increase in the number of interdisciplinary studies, the collaboration of multitude of authors in a study, and the comprehensive scale and nature of research studies have further complicated the issue of authorship order. The quality and the extent of contribution and responsibility are critical factors in determining the order. Authorship requires substantial contribution covering the whole process from the ideational stage to publication. Creative contribution is more valuable than mechanical work in determining authorship. Misappropriation of authorship is one of the most commonly observed unethical practices in scientific publication (İnci, 2008, p. 108).

The issue of determining the first author has been addressed in various ways depending on the discipline and culture. However, the convention is to give the first author status to the one who has been significantly involved in study conception and design, data collection, analysis and interpretation, interpretation of the findings, the critical evaluation and review of the content, and preparation of the final version of the manuscript. It is the first author who has made the greatest contribution to the study (ICMJE, AJE). The second author is the one who acts as the supervisor of the activities, obtains the necessary tools for the study, and provides support in the planning and writing of the manuscript. The last name belongs to the author who is usually an expert in the field and is involved in the planning and supervision of the study, has provided support in the specifics of the study, following and evaluating the progress of the research and has contributed to the writing of the manuscript. The last author is usually the senior researcher, who is mainly responsible for the supervision of the study (AJE). The rest of the authors are those who has contributed to the research in the processes of initiating the study, conducting the research, analyzing the data, and writing the manuscript.

In order to facilitate the process of determining the authorship order, points system can be used, which could help quantify the contributions of each author (AJE). The criteria taken into consideration when making decisions about the authorship order can be listed as making substantial intellectual contribution to the paper, contributing to the development of the research design qualitatively and quantitatively, analyzing the data, interpreting the findings and writing a certain portion of the paper. To make the whole process transparent, author disclosure forms must be prepared. The authorship order is determined based on the magnitude of contribution, and the decision should be made independently of status of the people. Some journals require the

declaration of the quality of the contribution each author has made, and publish it. Such a policy can, to a certain extent, help eliminate the ambiguity of contribution. However, the problem of determining the quality and quantity of contribution that qualify for authorship persists (ICMJE).

Authorship order must be determined before the writing process, even before the research is initiated (ICMJE, Wallace and Siersema, 2005, AJE). Throughout the processes of scientific research and writing the manuscript, the status of authorship can be revised. Based on the magnitude of intellectual contribution, an author may be shifted or removed from the author list. Every author contributes to the research, and the processes of writing and revision, and agrees on the final content and findings (Carlson and Ross, 2010, p. 266). In our research groups, contributions to the study are given credit and the authorship order protocol is signed by all authors before proceeding with the study. The authors' shared agreement provides the basis for making decisions regarding the removal, shifting or addition of an author.

In publications based primarily on graduate theses and dissertations, the student is usually listed as the first author. Advisors can take the second or third place. If the student can/does not complete, present, defend, or prepare it for publication in a designated time limit, the thesis advisor can publish it, bearing the status of first author; in that case, the student is the co-author (İnci, 2008).

The activities of data collection, acquisition of funding, or general supervision of the research group do not qualify individuals for authorship (ICMJE). Being responsible for the department where the research is conducted, doing statistical analysis, contributing to the study in the writing process alone do not suffice to be credited as an author (ICMJE). The individuals who contribute in ways that do not qualify for authorship must be identified in the footnotes or must be acknowledged.

Violation of Authorship Rights

Despite the existence of the authorship criteria developed by ICMJE, and the support for these criteria from other journals, it has been observed that many authors fail to comply with the criteria, or even worse, they are not aware of them.

The prevalence of violations of publication ethics such as gift authorship, honorary authorship and ghost authorship is not at a negligible level. A study conducted with 3247 scientists in the U.S.A found that the number of those who reported assigning authorship to individuals who did not qualify for authorship was 10 % (Brian, Anderson, and Vires, 2005, p. 737). Another study, which examined the prevalence of articles with honorary and ghost authors in peer-reviewed journals revealed that of the 156 articles, 19 % had evidence of honorary authorship, 11% had evidence of ghost authorship and 2% had evidence of both types of inappropriate authorships (Flanagin, and Carey, 1998, p. 222). In a cross sectional survey in 2008, conducted with corresponding authors of various types of articles published in 6 medical journals with high impact factors, the prevalence of articles with honorary or ghost authorship or both was found to be 21 % (Wislar, 2011). In the same study, a statistical comparison of the results of a 1996 study that used an identical questionnaire and results of the 2008 study revealed a significant decline in the prevalence of articles with honorary or ghost authors. Although there wasn't a significant difference in the prevalence of honorary authorship found between the 1996 study and the 2008 study, a significant decline was observed in the prevalence of ghost authorship. Evidence of misappropriation of authorship in journals with high impact factors can still be observed.

Another issue regarding the authorship rights concerns the number of authors. As long as each author meets the criteria for authorship, there cannot be an upper limit to the number of authors in an article. As is known, the number of authors per article has increased in recent years. This can be attributed to the competition for productivity or to the increase in the number of interdisciplinary studies. Nevertheless, violations of ethical conduct cannot be ignored. Those who are placed in the author list of a paper without meeting the authorship criteria have committed a violation of ethical principles. Practices such as including in the author list those

individuals who have not actively contributed to the study, omitting those who have actively contributed to the study, modifying the authorship order without proper justification, removing authors who were identified in the conference presentations from the author list are unethical.

Violation of authorship rights can be categorized as follows:

Honorary Authorship: Honorary authorship is the authorship credit given when an individual does not substantially contribute to the research and the writing process of a paper, but makes financial contribution to the study. One of the reasons for assigning honorary authorship to an individual may be the concern to secure funds and resources for new projects. In research projects in many countries, the salary of the researchers are covered by the funding that they are granted for that particular project. Concern for sustainable income leads researchers to pursue a new project upon the completion of one and financial resources to be able to follow through (Carlson, K. Ross, 2010). Therefore, they tend to give honorary authorship to those who provide financial support for a study.

Gift Authorship: Gift authorship entails giving authorship credit to individuals who are senior or have more expertise in a certain field despite a lack of substantial contribution to the study. It is usually given by young academics in anticipation of academic promotion. One of the reasons for accepting gift authorship can be to avoid discouraging young academics. However, approval of gift authorship without ensuring the integrity of the relevant publication may create problems. The individual who is given gift authorship may be a close friend (Claxton, 2005a, p. 36), a colleague or someone from family. There are also instances when individuals are added to the author list in order to increase the number of published works and citations. Sometimes, head of departments or senior department members are automatically added to the author list despite lack of any contribution to the study (Wallace and Siersema, 2015, p. 441).

Guest authorship involves including a well-known name in the author list with the purpose of increasing the quality of a paper on the surface or conceal the industry ties of a paper by adding the name of an academic author. Another form of inappropriate authorship is coercive authorship, which refers to the practice of a senior researcher pressuring a junior researcher to add him to the author list (AJE).

Ghost Authorship: In contrast to the practices of ethical violations identified above, ghost authorship involves failing to give authorship credit to an individual who has made a substantial contribution to a study or a paper. Ghost authors are offered to write papers or reviews by pharmaceutical companies in exchange for financial gain. However, although they substantially contribute to studies financed by the pharmaceutical industry, they are not given credit as authors. They conceal their identities so that the study which, in reality, reflects the viewpoints of the organization can look as if it was conducted by a seemingly objective researcher. The worst version of this type of authorship can be observed when the industry conducts the research, writes the paper, and pays the objective researcher to allow her/his name to be included in the author list. Also, the supervised individual can be directed to write some parts of the paper, but is not given credit as an author (Claxton, 2005a, p. 36). Scientific studies relying on the sponsorship of industrial organizations are likely to be strongly biased and thus should be avoided (Wallace and Siersema, 2015, p. 442). In one instance, a company forwarded a complete paper on its products to a well-known researcher, asking him to appear as author of the paper. When the researcher notified the relevant committee of this incident, the committee decided that the incident was a case of dishonesty. In this incident, the purpose was to give the impression that the article favoring the use of certain medications had been written by an objective expert (Claxton, 2005b, p. 25). It is known that the researchers who work in pharmaceutical companies choose not to put their names on the author list in order to avoid controversy regarding their academic careers and not to lose their financial resources.

Solutions

In order to avoid potential disputes that may come up later in the process, the issue of authorship should be openly voiced, and documented based on discussions among the authors in the planning stage before the process of writing the manuscript. The protocols for the order of authors must be prepared and signed by each author, which should be led by the principal researcher of the study.

Conclusions

Unfortunately, violations of authorship rights are among the most common of the many types of breaches in scientific ethics. Granting authorship to those who fail to meet the authorship criteria, omission of deserving authors from the author list, inappropriate practices in determining the order of authorship, removal of authors in publication although their names are identified on the conference proceedings and unjustified shifting of author names on the author list are examples of fraudulent misconduct concerning authorship that persists, albeit in a declining fashion. An author shares responsibility for the whole paper regardless of her/his place in the author list. Authors should take responsibility for breaches in scientific ethics in their articles, if any, just as they take pride when the article is frequently cited.

In the prevention of ethical misconduct, providing education and training on scientific ethics is just as important as imposing effective sanctions. In addition, constant effort must be made to draw the attention of authors and readers to the subject of authorship rights and responsibilities.

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