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Responsible conduct of Research: Concept and Issues in Authorship

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ABSTRACT

In scholarly publication, authorship defines the roles played by an individual or a member of a team in creating and circulating an original work. It is therefore important to clearly understand who deserves to be an author in a publication. Also, the order or position of authors in a scholarly publication often leads to conflict among members of research teams. This is not helped by the advent of more technical reward systems for promotion, tenure and grants in many institutions, some of which give advantage to the position of some authors. In this paper, some common issues on authorship and peer review processes are discussed.

Keywords: *responsible conduct of research, authorship, manuscript preparation*

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INTRODUCTION

In recent times, authorship of manuscripts is generating a lot of controversies. It has been observed that two major issues in authorship create problems so often. In the first instance, there may be differences in understanding what constitutes authorship of a scientific paper i.e., whether someone should be listed as an author or not. The second (and most common) cause of conflict is where an author's name should appear in the list.

Authorship disputes form a major part of scientific misconduct cases, often due to the fact that many participants in a scientific research team do not set their goals right from the onset. Secondly, development of new methods of ascribing scores/grades to authors in published materials has made it expedient for authors to know what lies ahead when the final product is being assessed. This is in addition to increased awareness by authors, of the value of citations for tenure and grants in many countries. Some of these scoring processes give advantage to the position of some authors (and in some cases, makes some other authors feel disadvantaged).

Modern scientific research involves collaboration between experts of common interest, irrespective of their research units, departments, faculties or even institutions. Thus, it is becoming practically impossible in scientific research to be a single author in works involving people of different fields. Several publications have clearly shown a dwindling number of one or two-authored papers in scholarly journals (Barnett *et*

al, 1988; Henriksen, 2016; Brunson *et al*, 2017). This trend is corroborated in Table 1 from a finding by Shaban and Tar-Ching (2009). This multidisciplinary approach has gained acceptance worldwide and has been shown to have several advantages to scientific development. The good side of multidisciplinary research collaboration is that it creates the best of relationship. However, we must also realise that several enemies have been created as aftermath of conflicts arising from disagreements over author arrangements.

Many Universities and research institutions base promotion of academic staff solely on research outcomes (number, quality and in some cases medium of publication of research outputs), utilizing different scoring systems that place emphasis on the position a particular author is placed in a published paper. This has increased post-publication conflicts among authors.

It is in the light of the issues highlighted above that it becomes necessary to always define the concept of authorship and regularly discuss issues that will reduce the conflicts often noticed among collaborators.

WHO IS AN AUTHOR?

Many researchers, due to pressure to publish, lure others to put their names in manuscripts in which they didn't contribute to in a meaningful way. If and when the need arises in future to defend their roles in such paper, such persons are usually not forthcoming (Gasparyan *et al*, 2013). According to the

International Committee of Medical Journal Editors Statement on Authorship Requirements (ICMJE, 2017), authorship credit should be given to anyone who meets the following criteria:

- 1. Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data:** It is expected that someone whose name is on the authors' list of any publication should be able to answer questions arising from post-publication discussions. That means taking responsibility for the work done in such a paper. Naturally, the conception of an idea may come from an individual. Such ideas are broadened and made realizable through the contributions of others who have specific roles to play in the research process. For example, a study of the therapeutic potentials of a natural product on an animal model of a disease may involve the combined efforts of a researcher from botany or pharmacognosy, basic medical sciences (biochemistry or pharmacology or physiology), histopathology and biostatistics. Together, they develop the problem statements and research questions. It is expected that all authors should agree on the design of the work at the preliminary stage. It should be noted that authorship in a publication is not limited to holding a position at an academic or research institution.

interpretation are key components that lead to acceptability of any scientific publication. Parker and Berman (1998) made an excellent case for the role of statistician in a scientific study and recommended the use of a scoring system which rates the contribution of a statistician to the design, implementation, and analysis of any study.

It should also be stressed that donation of reagents or other items alone to participants of a research does not justify authorship. However, such generous acts must be duly acknowledged. Also, there is no automatic authorship for technicians, students, coordinators, or chairmen or head of departments who do not meet the criteria stated above.

- 2. Drafting the article or revising it critically for important intellectual content:** For someone to claim responsibility for a published work, there must have been a substantial involvement in the processing of the manuscript, from draft to final stage. Although the lead or most senior author does most of the revisions in many cases, it is expected that all the authors see the article at the draft stages so as to make input in the area of their contributions. It is not ideal (and rather absurd) for a member of the team who contributed significantly at the design and experimental stages to be neglected or sidelined in the manuscript preparation process. Areas involving such a member of the team are usually inadequately or underreported and most often attract the wrath of peer reviewers.

- 3. Final approval of the version to be published:** All authors should review and approve the manuscript before it is submitted for publication, at least as it pertains to their roles in the project. As stated earlier, when manuscripts are seen by all the authors, it takes a much shorter period for decision to be taken by peer reviewers

- 4. Responsibility for accuracy and integrity of all aspects of research:** An author in a scholarly publication is expected to have all measures of integrity and scientific accuracy. The Singapore Statement on Research Integrity (2010) encourages (and expects) authors to have a good measure of two basic principles of responsible research which pertains to authorship as follows:

Honesty: It is expected that each of the authors listed in any manuscript had been truthful in all aspects of the research conducted.

Accountability: All persons listed as authors in any scholarly publication must be able to take responsibility for all actions taken prior to, and during the conduct of the study, preparation and submission of manuscript and its publication.

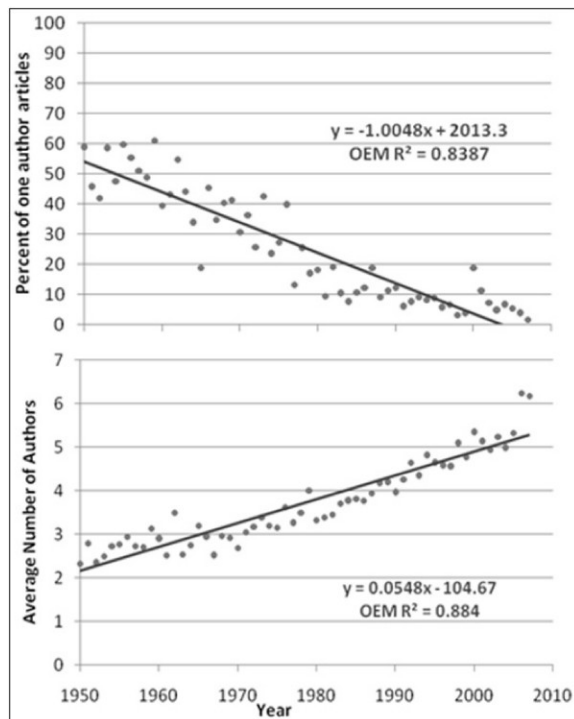


Figure 1
Percentage of single-author articles and average authors per multiple-author articles for Occupational and Environmental Medicine (source: Shaban and Tar-Ching, 2009).

A number of people often sideline active participants in a research just because they feel such individuals 'do not need publications for development'. Although the inclusion of statisticians in authors list have been questioned by some people, it should be realized that data analysis and

ORDER OF AUTHORSHIP

One of the major causes of conflicts among researchers is the order in which the names of authors are arranged in a manuscript being prepared for publication. It is very important that such potential conflicts are resolved or minimized by following agreeable standards or principles. The Committee on Publication Ethics (COPE) also recommends that researchers discuss authorship order from project initiation to

manuscript submission, revising as necessary, and also advised that the team records each decision in writing. While I must state that there is no golden rule to the order in which authors names are arranged in a manuscript, attempts have been made to give certain positions on a manuscript based on specific contributions as follows:

First author: it is generally agreed that the first author should be the person who did the most work, and usually, the person who initially drafted the paper.

Last author: in most advanced research group or laboratory settings, the last author position is usually reserved for the most senior person in the group. Sometimes he doubles as the author for correspondence.

Many alternate methods have been suggested as ways of avoiding conflicts in ordering of names in scholarly publications. For example, some research groups with propensity of the work resulting in multiple publications adopt the listing of authors alphabetically, using the last names while some may agree on the reverse order. The order is then rotated to favour the author with the next alphabet in subsequent papers until all the authors have a taste of first authorship. This practice has however been shown to be on the decline as stated in a 2011 survey by Waltman (2012) which shows that alphabetical ordering of names accounted for only 4% of all papers published in 2011.

Faulkes' (2018) proposition of joint first authorship is fast gaining ground. The main point in this solution is to give joint first authorship to numerous collaborators. What this means is that if there are ten authors in a paper, upon submission, all the authors will declare that they contributed equally in all aspects of the work. As such they claim equal percentage contributions in the work. This phenomenon was seen in just 1 per cent of publications in 2000, but that had risen to 8.6 per cent in 2009, according to a study by Broderick and Casadevall published in January 2019.

The other side of authorship

In scholarly publication, authorship defines the roles played by an individual or a member of a team in creating and circulating an original work. Over the years however, a number of unacceptable inclusions in the authors list have been found, which do not fit into the criteria stated above for authorship. Although attempts have been made to explain the reasons for such inclusions, it does not remove the fact that such practices are against the proper and acceptable conduct in research and are inconsistent with the definition of authorship.

Guest (honorary, courtesy, or prestige) authorship: This has been defined as granting authorship out of appreciation or respect for an individual, or in the belief that expert standing of the guest will increase the likelihood of publication, credibility, or status of the work. Often, researchers use guest authorship in order to place their paper or proposal in pole position to acquire grants, funds or expedite acceptance of their manuscript.

Gift authorship is credit, offered from a sense of obligation, tribute, or dependence, within the context of an anticipated benefit, to an individual who has not contributed to the work. In some institutions, a head of department is usually included in a paper even without contributing in any way to the work.

In some other climes, the donation of resources to a project by an individual had earned such donors a place in the final publication. In a particular dimension, typically called coercive authorship, a senior researcher (such as a supervisor) forces a junior researcher (such as a graduate student) to include someone as an author in a paper in which he is not part of.

Ghost authorship: A Ghost author is one who makes a substantial contribution to a research or the writing of the report, but at the end, is not listed as an author. It can therefore be said to be the direct opposite of guest or gift authorship. Examples are professional scientific writers who work for pharmaceutical companies. Such a person may prepare articles for their products but is not credited for such.

In an attempt to assess the prevalence of honorary and ghost authors in six leading and high-impact general medical journals. Wislar et al (2008) observed that honorary authorship occurred in 21% of articles published in six medical journals in 2008. This was an improvement over the 29.1% observed in a 1996 study by Flanagan et al (1998).

Authorship conflicts in manuscripts from Thesis/Dissertation

There appears to be a surge in conflicts between academic supervisors of thesis or dissertations and their students on the issue of authorship of manuscripts emanating from such dissertation. Questions usually arise on who takes the most credit for a manuscript being prepared from a supervised work. Some even query why a supervisor's name should appear in a paper from a thesis or dissertation he supervised as faculty in a public institution. A review of existing literature on this subject still leaves a vacuum as to what is right or wrong. However, issues of morality and fairness should also be considered.

There are several models and methods in dissertation supervision and choice of research focus. According to Dinc (2014), in some countries such as Turkey, supervisor usually provides the idea for the dissertation and designs the study, while the student collects, analyses the data and writes the dissertation draft with the contribution of the supervisor. When the dissertation is to be published, usually the supervisor writes it as a research article, but his name is placed as co-author, whereas the student becomes the first author. The Turkey model also applies to undergraduate, and in many cases, Masters project supervision in the African continent. It is believed that at such levels, students should be given direction in terms of research. However, while some are magnanimous enough to make the student the first author, others reserve that position on manuscripts emanating from such dissertation for themselves.

More conflicts however often arise when manuscripts from doctoral supervision are prepared. There appears to be no agreed norm and the order of author names of a research article based on a doctoral dissertation. Forster and Ray (2012) observed that there exist complicated ethical dilemmas which centers on inclusion and order of authorship of such papers.

There are strong arguments in favour of the doctoral student taking a more significant credit in papers from his/her dissertation. Those on this side of the divide believe that, unlike the undergraduate and early postgraduate levels,

doctoral students are more matured in research and are expected to be more answerable to the scientific world on their findings. It is also the opinion of many that the supervisor in a doctoral thesis is just to give direction to research and as such, more credits should be given to the student. The independence of a doctoral student may however not be practicable in some disciplines as the extent of involvement of the supervisor in various stages of the work and paper writing varies from one area of research to the other.

Overall, less conflict will arise on authorship of papers from doctoral theses if elements of fairness, equity and consistency are introduced by all parties involved.

REFERENCES

- Barnett, A H, R W Ault, and D L Kaserman (1988)**, “The rising incidence of co-authorship in economics: further evidence”, *Review of Economics and Statistics*, 70, 539-543.
- Brunson JC, Wang X, Laubenbacher RC (2017)**: Effects of research complexity and competition on the incidence and growth of co-authorship in biomedicine. *PLoS One*, 12(3): e0173444, 22 Mar 2017
- Dinc L (2014)**: Authorship dispute of a doctoral thesis publication. *Nursing Ethics* 21(3):265-266
- Faulkes Zen (2018)**: Resolving authorship disputes by mediation and arbitration. *Research Integrity and Peer Review*. 3:12. <https://doi.org/10.1186/s41073-018-0057-z>
- Flanagin A, Carey L, Fontanarosa PB, Phillips SG, Pace BP, Lundberg GD, et al (1998)**: Prevalence of articles with honorary authors and ghost authors in peer-reviewed medical journals. *JAMA* 280:222-4
- Foster R.D and Ray D. (2012)**: An Ethical Decision-Making Model to Determine Authorship. Credit in Published Faculty–Student Collaborations. *Counseling and Values* 57: 214 - 228
- Gasparyan AY, Ayzvazyan L, Kitas GD (2013)**: Authorship problems in scholarly journals: Considerations for authors, peer reviewers and editors. *Rheumatol Int.* 33:277–84.
- Henriksen, D (2016)**, “The rise in co-authorship in the social sciences (1980-2013)”, *Scientometrics*, 107 (2), 455-476.
- Ludo Waltman (2012)**: An empirical analysis of the use of alphabetical authorship in scientific publishing: <https://arxiv.org/ftp/arxiv/papers/1206/1206.4863.pdf>. Cited October 15, 2020
- Morse J. (2009)**: Editorial: negotiating authorship for doctoral dissertation publications’ *Health Res.* 19(1): 3–4
- Sami Shaban and Tar-Ching Aw (2009)**: Trend towards multiple authorship in occupational medicine journals. *J Occup Med Toxicol.* 2009; 4: 3.
- Wislar J.S, Flanagin A, Fontanarosa P.B, DeAngelis C.D. (2011)**: Honorary and ghost authorship in high impact biomedical journals: a cross sectional survey. *BMJ* 2011; 343