Author's Commentary on "Authorship"

Commentary On
Authorship

This case has been designed as one in which there is no defined conflict. However, any situation in which many individuals are involved is certain to have any number of possible outcomes. This case is no exception. The purpose of such a case is to spark discussions that most often begin with, "what if. . . ."

This case primarily concerns the assignment of authorship, but discussion is certain to encompass many other areas including relationships, intellectual property and intellectual contribution, the role of technicians vs. the role of graduate students, and many other issues.

Discussion Question:

- Do you agree with the order of authorship that David proposed? Why or why not?

The order of authorship for papers is often a subject of great debate, and authorship practices vary from discipline to discipline and among labs of particular disciplines. Since no set standard crosses disciplines, it is most often left to the PI of a particular project to make the final decision. David's authorship proposal was based on the rules that were stated by Killinger upon David's arrival, as is done with each new member of the lab. In this way, all members of the lab are informed in advance of the authorship guidelines. It is easy to agree with the order of authorship that David has proposed. It seems most logical that the individual who is responsible for the actual writing of the paper and who has contributed most to the project should be included as the primary author. Since this project was David's as a post-doc, and most likely his original research idea and design, it seems reasonable that he should be listed as the primary author. It is also almost incontrovertible that the individual supplying the money and/or research space for a particular project should be included as an author (listed last in many disciplines). Such is the case with Killinger, who served as the PI for the project and provided the money and space. The

uncertainty concerns the technician and graduate student.

A technician's role in a research laboratory varies from lab to lab. In some labs, a technician may be a scientist with years of experience and many publications as primary author who provides intellectual contributions through trouble shooting in addition to being an expert on certain techniques used routinely in the lab. In other cases, a technician may perform a specific procedure for all other members of the lab, without any additional intellectual contributions to those projects. As a result, it is difficult to make a blanket statement about crediting a technician on a publication. In this case, Haruko has worked closely with David on many aspects of his project. The case tells us that she has done a great deal of the trouble shooting with David in addition to developing a novel technique for isolating organelles. David has therefore decided that she should be included as the second author on the paper.

While there may or may not be a technician in a lab, there are almost always graduate students. Many schools rotate graduate students through several labs before the students choose an adviser and become full-time members of a particular lab. During these rotations, which may last several weeks, but usually not much longer, the students work with current members of the lab to get a feel for the types of research that are being conducted, and to get acquainted with the personality and atmosphere of the lab. While graduate students most often assist the current lab members with their respective projects, they rarely make any significant contributions due to the short amount of time that they are involved. In this case, Benson is in Killinger's lab for only six weeks. He has helped on a final stage of the experiment, but primarily to learn and not as a contributor. As a result, David has decided that he will be acknowledged in the paper for his efforts on the project, but will not be listed as an author.

All of these authorship decisions were based on the rules stated by Killinger. This case is certainly one in a vacuum because there was no disagreement from any of the persons involved, and the situation was resolved smoothly.

What if Killinger had stated different rules? What if Killinger informed each new member of the lab that he would be listed as primary author on all research that was conducted in his lab, whether or not he had any contribution other than providing the money and space? In that case, Killinger would be listed as primary author followed by David and finally Haruko. Would this practice be ethical?

What if Killinger told every new member of his lab that all papers coming out of his lab would have only his name on them, even if he only supplied the money and lab space for the project? Would David and Haruko have reason to feel slighted if that were the case? If Killinger has made this rule clear before each person decides to become a lab member, is he being unethical? He is not lying or being deceptive. If prospective lab members agree to these guidelines, then Killinger cannot be held at fault for any wrongdoing, right? Or, is there something inherently unethical about such a mandate, regardless of who may agree to abide by it?

Discussion Question:

- Is it ethical to include Haruko (the technician), but not to include Benson (the graduate student) on the list of authors for this paper?

This issue has been examined to some extent in the discussion following Question 1. In this case, Killinger has stated that those who have made "a significant intellectual contribution" should be included as authors on papers coming out of the lab. David based his authorship assignments on this ruling. Since Haruko actually designed experimental methods as well as trouble-shooting during the project, she was considered to have made an intellectual contribution adequate to merit inclusion as an author. Benson, on the other hand, was not included because he participated only in the last experiment of the project, apparently to a minor extent, and as such did not make an intellectual contribution significant enough to merit authorship.

What may be of interest here, however, is the possibility that Benson may see his contributions in a different light. What if this final experiment lasted for Benson's full six weeks? What if during that six weeks, Benson recorded data and analyzed those data for David and Haruko? Would that have made a difference? Would that be considered as a "significant intellectual contribution?" What if Benson decides that the authorship decision is unfair, and takes the data he has collected with him to a different lab and publishes the work in a different journal? Would he be justified in doing so?

Discussion Question:

- Does it matter that Benson was just on a rotation through the lab and not (as yet) a regular member?

This question certainly ties into Question 2. Should regular members of a lab be given more priority than a student who is just on a rotation through the lab? Or do the same rules apply? Basically, does the fact that Benson is not really a member of the Killinger lab make it less likely that he would be included on a paper, regardless of his level of contribution? In this case, David has decided that Benson's intellectual contribution on the last experiment was not significant enough to merit authorship. Would it matter if Benson were a senior graduate student who had been in Killinger's lab for four years, and did the same amount of work as described in the case study? Theoretically, it should not, but practically speaking, it very well may. For instance, David probably knows Benson only slightly, due to the short time he has been working in Killinger's lab. If Benson and David had been in the lab together for four years, it is possible that David's decision about intellectual contribution may have been swayed. Would that be ethical?

Discussion Question:

- What constitutes a significant intellectual contribution? Who should decide?

While no authorship standard crosses disciplines, one phrase seems to stand out - "significant intellectual contribution." What exactly is a significant intellectual contribution? An intellectual contribution would be the giving of one's original thoughts. What makes such a contribution adequate to merit credit for authorship? A number of papers have been written on this topic. In the Author Instructions section of the Journal of the American Medical Association, for example, all authors are advised that each should be able to take public responsibility for the content of the paper. The instructions further state that all of the following conditions must be met in order to be included as an author.

Discussion Question:

- There must be substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content;
- and final approval of the version published. (International Committee of Medical Journal Editors, 1997)

Syrett et al. also stated the same three conditions in their article, Authorship Ethics (Syrett et al., 1996). If these conditions are applied to this case study, it seems

evident that David and Haruko should both be included as authors, and that Benson should not be included. It is not quite as clear, however, whether or not Dr. Killenger's contributions merit authorship. In fact, Syrett, et al. state that fund acquisition and data gathering do not merit authorship. Should a PI be included as an author on a paper, even if he only contributed funds and lab space?

Even if these three conditions are met, there is still room for debate about authorship. Condition 1 states that there must be a "substantial" contribution. So who should decide what constitutes a "substantial contribution"? Should the PI decide? After all, it is his lab, and the research is most likely being done with funds he has acquired. In this case study, Killinger advises each new member of his lab that he is the final authority on the decision about what constitutes a "substantial contribution." What if this practice were not stated up front? Should the majority rule?

There are certainly no easy answers to the questions posed by this case study, but these questions will stimulate discussions about the problems the case presents. Included below is a list of articles for further reading. These articles should be reviewed by discussion leaders to familiarize themselves with the current views on authorship ethics.

References

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Further Reading

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