

AUTHORSHIP AND THE ROLE OF THE ABSENT RESEARCHER

As a graduate student, Camilla Pedroza worked closely with her advisor/mentor and lab chief, Dr. Kisaki, for four years on a project developing a diagnostic test for lupus. As part of the study, she performed diagnostics for physicians, particularly Dr. Browne, who sent tissue samples from his patients to her to be tested. Shortly before her project was completed, her husband was relocated to an excellent position in their homeland, Spain. She hastily put together the material she had collected over the years which was enough to pass as her thesis. During her final meeting with Dr. Kisaki, he promised to complete her project and get it published.

Jonathan Sand has been a post-doc in the Kisaki lab for a year and a half and has little to show for his time in the lab. Dr. Kisaki feels that Camilla's project is ideal for Jonathan because it is so close to completion and would allow him to build upon it for future projects. Within three months, thanks to Camilla's excellent write-ups of her methods, Jonathan has been able to replicate several of Camilla's experiments and does some important controls.

Noting the progress, Dr. Kisaki asks Jonathan to write the first draft of the paper as he now has access to all the data. Dr. Kisaki suggests including a few of Jonathan's figures which replicated Camilla's work. Dr. Kisaki is relieved and gratified that at last, with Jonathan's efforts, the project has been successfully concluded.

Hearing that the work is close to publication, Dr. Browne calls Dr. Kisaki to remind him of their original agreement which established that he should be included as an author on this paper in return for furnishing the tissue samples.

Meanwhile, Jonathan passes in the first draft of the manuscript with his name as first author. In considering the position of authors, Jonathan believes that he should be listed first because these are his data being presented, he prepared the figures, and he wrote the paper. Camilla will be included as an author.

Dr. Kisaki sends the draft off to Camilla, who recognizes that the data are no different than those included in her thesis. She sends an immediate response to Dr. Kisaki requesting that she be first author. And she also objects to Dr. Browne being included as an author because (1) he was one of many physicians who sent in tissue samples; (2) she was performing a service for him; and (3) he contributed no intellectual effort to the project. She also questions the inclusion of the department head, Dr. Carson, as an author despite that being the custom of the department. Dr. Kisaki realizes that he has a lot of decisions to make. One solution he considers is dividing the manuscript into two submissions so that both Camilla and Jonathan can each be first author on one paper.

Discussion questions:

1. Does the person who writes the paper naturally assume first authorship? Does Camilla have a legitimate claim for first authorship? What does first authorship imply?
2. As Camilla's advisor/mentor, should Dr. Kisaki have discussed with her: (1) plans for the publication of the results of her dissertation research; (2) her role and responsibilities in the preparation of the manuscript(s); (3) commitments and arrangements for attribution for investigators who supplied tissue

samples/reagents for her studies?

3. As a departing student, what role should Camilla have played in initiating discussions relevant to the dissemination of her work product? Are the results of Camilla's thesis project her intellectual property?
4. Students and postdocs come and go in a lab. How do you decide, in a transient setting, who contributed the most to a project and has a subsequent claim to be an author? Is Jonathan guilty of intellectual plagiarism? How does the departed grad student, or postdoc, retain an ongoing role in absentia in subsequent research efforts?
5. Whose responsibility is it to determine authorship? What about the role of the mentor in deciding who should be first author, especially in settings where someone left the lab without completing the project? When should these decisions be made? What are the pressures faced by postdocs who write the first draft in determining placement and inclusion of authors? How much weight do Camilla and/or Jonathan have in these decisions?
6. Criteria for authorship have been hotly debated. The study could not have been conducted without the contribution of Dr. Browne and the others who sent in the tissue samples. So what claim does Dr. Browne have to be an author? What criteria do you set for people like Dr. Browne and others who contribute samples?
7. Many journals now request that authors state explicitly that they contributed to the publication. Dr. Browne, who has never read the manuscript, nonetheless believes strongly that he contributed to the project and would in good conscience sign any compliance form. How do you resolve this with the intent of the journal?
8. The NIH Guidelines do not recognize the concept of "honorary authorship", yet there can be compelling interests to continue this practice. Discuss the implications of honorary authorship.
9. What about accountability? Given that there are five authors listed on the paper, who is ultimately responsible for validity of the data and information contained in the publication? What is someone challenges the validity down the road?
10. "Salami publication" or publication of the "least publishable unit" is growing in frequency. Why is there concern about "republished" or duplicate publications?

TO BE OR NOT TO BE INCLUDED

Upon entering the graduate program, Alyssa decided to do start working in the laboratory of Dr. Harry Swift. She started on a project that consisted of administering and evaluating the effects of an anti-malarial agent using an animal model. Although six other graduate students were working in the laboratory (not doing rotations), none of them was involved with the project, other than occasionally assisting Alyssa with the animals. She presented her data at weekly laboratory meetings attended by all members of Swift's lab, including Swift.

Alyssa and Swift did not get along very well. Swift believed that although Alyssa was a hard worker, she required too much supervision and was not an independent thinker. Alyssa, on the other hand, believed that Swift expected too much from his students and failed to provide adequate direction. Therefore, after completing the project, which took approximately nine months, Alyssa decided to leave the lab and begin working in another laboratory in the same department. Alyssa's lab book remained in Swift's lab, and Swift told her that the work did not merit publication.

Approximately one year later, Alyssa learned that her data had been published. The paper did not list her as an author, but it did list the names of other graduate students who had worked in Swift's lab during Alyssa's tenure. Alyssa decided to bring this situation to the attention of the departmental chairman, who referred her to the Director of Student Affairs. The director formed a committee of senior faculty members from outside Alyssa's department to investigate the situation.

When the committee questioned Swift about the exclusion of Alyssa as an author, he responded that Alyssa did the work but had not contributed intellectually to the project. Rather, she had functioned primarily as a technician. Swift commented that he had had several discussions with Alyssa about her inability to add to the project, other than data collection, and she had made no effort to increase her input. The committee questioned Alyssa and reviewed her lab book. The other graduate students who had worked in Swift's laboratory were never questioned.

The committee decided that Alyssa was responsible for the data presented by Swift. They also concluded that she did not have a major input into the experimental design, nor did she carry out the statistical analysis of the data required for publication. The committee concluded that the decision to include Alyssa as an author was at Swift's discretion.

Discussion questions

1. Should Swift have notified Alyssa about the decision to publish the work?
2. Should Alyssa have been given an opportunity to analyze the data for publication?
3. Should Alyssa have approached Swift about the matter before approaching the department chair?
4. Should the committee have questioned more individuals associated with Swift, (e.g., the other graduate students working in the lab who were listed as authors on the paper)?
5. Should the university have rules about acknowledging students' contributions to laboratories?
6. What criteria should determine authorship?
7. What are the responsibilities of mentors, students, and institutions to the successful conduct of graduate/postgraduate education?

8. Did Swift fail in his responsibility to Alyssa as a graduate student adviser by allowing her to function solely as a technician?
9. Did Alyssa fail in her responsibility as a graduate student to contribute intellectually to the project rather than limiting her contribution to data collection?
10. Is it necessary for graduate programs to spell out the responsibilities of advisers and graduate students, or are they implicit?

STUDENT PUBLISHES

Stevens is a second year graduate student performing materials science research and hopes someday to have a faculty position. The material Stevens is working on is diamond. The cost of preparation and analysis of the samples is very high, and there are not many samples. Due to these high materials costs, few experiments can be conducted, and hence it is difficult for faculty and/or students to generate more than one or two publications from a given series of experiments. Students from Stevens's department generally have four or five publications by the time they finish the Ph.D.

Stevens's adviser is Professor and Department Chair Charlie Cordage. Cordage was recently elected to the position of chairman by the seven other faculty members in the department. Due to the obligations and time commitments dictated by the chairmanship position, Stevens is Cordage's only graduate student. Having a vague understanding of the importance of publications to get post-doc and faculty positions, Stevens based his decision to work with Cordage on the professor's outstanding publication record.

Stevens is making progress with his research and getting good data. He has analyzed his data well, and his relationship with Cordage is going very well. After one of their brief research meetings, Cordage believes that Stevens has enough data to publish a paper in an obscure journal. Cordage encourages Stevens to write a paper and tells him they can submit it for publication. After several revisions, Stevens and Cordage submit the paper, and it is accepted. Stevens is happy to start adding publications to his resume.

Because Cordage had been busy with administrative tasks, he hadn't taken the time to correct Stevens's paper beyond writing style and grammatical errors. Finishing up work a little early one afternoon, he decides to reread Stevens's paper. Reviewing the data carefully, he concludes that the paper probably could have been published in a more highly regarded journal. After a couple of months of clever revisions and making himself first author, Cordage submits the research paper to the more prestigious journal.

Upon its acceptance, Cordage sends Stevens a short email with the title and citation and congratulates him on adding another publication to his resume. Stevens had no idea of Cordage's action until he received Cordage's email. Stevens is delighted but confused. He asks himself, "How can I publish the same paper twice?" Stevens does not want to make waves, and he is not sure to whom he should turn. He lets the matter pass and says nothing.

Months later, Stevens is doing the literature review for his dissertation. He notices that a large fraction of the papers previously published by Cordage on the same topic seem similar. He realizes that aside from details such as title changes, Cordage is publishing each paper twice, once in conference proceedings and once in a journal. Normal practice has never been explained to Stevens, and he isn't really sure what to do.

Discussion Questions

1. Is it ethical for authors to receive credit for two publications from the same data? If so, under what conditions is it ethical?
2. Should the authors be required to inform the second publication that data has been presented or published elsewhere?
3. Would it matter that the first publication was in conference proceedings? Assume for argument sake that the paper was reviewed but not with the same scrutiny as a peer-reviewed journal.

4. In an ongoing research project, it is common for data to overlap. How much new or additional data should be required for the paper to be a new publication?
5. In his role as student and new investigator, has Stevens behaved appropriately with regard to the responsible conduct of science? To whom should he have turned with his concerns about Cordage?
6. When is information/data/research considered published?
7. Consider interdisciplinary research. Should the scientists from each discipline be allowed to publish the research in their disciplines' journals? If so, can all the scientists from each discipline be on each paper?
8. Is it acceptable to publish or present work or research without informing one's coauthors in advance?
9. Has Dr. Cordage fulfilled his responsibilities as a mentor? If not, where has he gone astray?

Source: Association of American Medical Colleges (1994). "Teaching the Responsible Conduct of Research Through a Case Study Approach." Washington, D.C., AAMC.

Authorship Case Study: CRITERIA FOR AUTHORSHIP AND ATTRIBUTION

Bob Powell, a postdoctoral fellow in biochemistry, has just completed a manuscript detailing the results from the first project in which he had taken a leading role. The focus of his project has been to discern the ways in which humans metabolize sulfites, a class of chemicals commonly used to preserve wines and dried fruits. Although he had developed the rough outlines of the project on his own, he owes much to individuals both inside and outside his lab. The assistance he received from others includes the following:

- A colleague at another university, a toxicologist specializing in food additives, shared with Bob his previous work on the *in vivo* activity of sulfites, information that allowed Bob to choose the ideal animal model for the experiment -- the Abyssinian field mouse.
- A friend of his, who happened to be a wildlife specialist, provided Bob with much advice on rearing and maintaining a colony of Abyssinian field mice such that he would have stable pool of animal subjects.
- A highly experienced technician in the lab gave Bob advice on modifying an assay he had been using, which finally allowed him to measure successfully sulfite metabolites in mouse urine. This technician also assisted in writing up the methods section of the paper.
- The number of assays that Bob had to conduct was quite sizable and more than he could manage on his own, given the other demands of the project. Thus, an undergraduate college student collected most of the urine samples and conducted the assays yielding the data.
- Finally, a senior researcher in a neighboring lab who took an interest in Bob's career offered to review the initial drafts of Bob's paper. By the end of the writing process, this researcher had helped Bob outline the paper, suggested a few additional experiments that strengthened the paper's conclusions, and made a number of editing changes in the penultimate draft that enhanced the paper's clarity.

Discussion questions:

1. What kind of attribution should be given to each of these individuals who contributed in one way or another to Bob's project? For example, who should be recognized as an author and who should receive an acknowledgement in the paper? Who does not merit formal recognition?
2. What criteria should be applied when determining whether:
 - to list someone as an author?
 - to note someone's contributions in the acknowledgement?
3. What are the responsibilities of authors in representing the contributions of others?
4. At what point in the process of conducting and reporting on one's research should decisions concerning authorship and acknowledgements be made?
5. Are decisions concerning attribution entirely Bob's responsibility? Should he consult with others? Why or why not?