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Case Study: Ethics & Team Power Dynamics in Authorship Decisions

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Description

This resource is an interrupted case study about authorship issues in collaborative research teams, focused on exploring issues of ethics and team power dynamics in authorship decisions. The case study can be used to foster discussions about the many factors involved in authorship decisions and the effects of those decisions on careers.

Resource Type

Case Study / Scenario

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Authorship
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Discipline(s)

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Case Study: Ethics & Team Power Dynamics in Authorship Decisions

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Abstract/Background: Below is an interrupted case study about authorship issues in collaborative research teams, focused on exploring issues of ethics and team power dynamics in authorship decisions. The case study can be used to foster discussions about the many factors involved in authorship decisions and the effects of those decisions on careers. This case study was written by an interdisciplinary team (two ecologists, a psychologist, a philosopher, and a historian) with the idea that it would be useful for scholars in any discipline that publishes multi-authored papers. The authors used this case study to facilitate discussion during the following two workshops: 1) *Authorship: Advocating for Representation*. Workshop at the American Association for the Advancement of Science (AAAS) Meeting in Washington DC, February 16, 2019 and 2) *Navigating Team Power Dynamics in Authorship Decisions.* Workshop at the Science of Team Science Meeting in Lansing MI, May 20, 2019. During these workshops, the participants discussed many complex and authentic issues of authorship, particularly those pertaining to power dynamics and ethical decision-making. These discussions demonstrated the ubiquitous and challenging nature of authorship issues and the utility of the case study for eliciting learning from such shared experiences. Please see pages 5-6 for teaching/facilitation notes and resources.

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Ethics and Team Power Dynamics in Authorship Decisions: Part 1

Amanda Stone is a postdoc in Dr. Max Smith's natural science lab at a University of California system university. She is applying for tenure-track positions in environmental science. She's anxious about making the short list this year because she would like a permanent position.

Amanda has 3 years of postdoctoral experience and has published 8 peer-reviewed journal articles in moderate or high impact journals. She occupies the prestigious first author position denoting her leadership on 4 of those articles, and across all 8 articles there is an average of 6 total authors. However, a mentor recently told Amanda that her publication list may not be strong enough to get short-listed for tenure-system jobs and that she needs to focus the coming year on publishing more publications with fewer co-authors and having a leadership role in those publications.

The project to which Amanda has devoted most of the past 3 years is very collaborative and interdisciplinary. Max is the lead project principal investigator (PI) on this project. In addition, there are 3 other PIs (1 other natural scientist and 2 social scientists), 3 other postdocs, 5 graduate students, and 8 undergraduate students. As part of this project, Amanda is working on multiple manuscripts that are in various stages of development.

Discussion prompts:

1. How do you think others will view Amanda's publication record (numbers and order)?
2. What are the power dynamics in Max's lab and on this project? How can Amanda navigate these dynamics?
3. How might a principle investigator create an environment that facilitates early-career researchers' ability to navigate power dynamics?

Ethics and Team Power Dynamics in Authorship Decisions: Part 2

Max is a full professor who enjoys mentoring early-career researchers. His lab currently includes Amanda, another postdoc, 2 PhD students, and 3 undergraduate students. Everyone in Max's lab is currently working on this research project, with the postdocs and PhD students leading different components of the research. Max's lab does not have a written authorship policy. However, he wants to support early-career researchers, so he has the opinion that all 7 members of his lab should be on all papers that come out of this research project. Additionally, since the project is interdisciplinary, he expects that social scientists will be included as co-authors on the papers that his lab submits. He generally expects that his name will be last in the list of authors, which in his field denotes that he is senior author (i.e., that he is the head of the project).

One of the papers Amanda is leading, and thus is 1st author for, is nearing completion. She used data collected by the team (natural and social science data) for this paper. Two others in Max's lab were very involved in the paper - one of the undergraduate students (Sam Hunt) helped with data processing and one of the PhD students (Alex Manton) helped outline the paper and conduct a literature review. Amanda conducted all of the data analyses and drafted all of the manuscript text.

Amanda first shared the completed manuscript with Alex (the PhD student), made revisions based on their feedback, and then had two rounds of back and forth with Max (the PI). Then Amanda circulated the paper to the rest of the research team (21 people total) and received constructive feedback from 4 of them, 3 social scientists and another natural scientist not in Max's lab. She's made revisions and is prepared to submit the paper to a journal for peer review.

Discussion Prompts:

1. What do members of your group think of Max's approach to supporting early-career researchers (i.e., including all members of the lab as authors on all published papers)?
2. At your table, decide who should be included as authors (and in what order). How did you decide who should be an author (and in what order) on Amanda's paper?
3. What components of authorship policies and practices could a principle investigator put in place to help with collaborative manuscript authorship decisions?

Ethics and Team Power Dynamics in Authorship Decisions: Part 3

As part of getting ready to submit the paper for peer review, Amanda drafts the following author list and circulates it to the whole team: Amanda Stone, Alex Manton, Sam Hunt, and Max Smith.

She receives three responses from the team. First, Max replies saying that he expects everyone in his lab to be included in the author list. Second, Alex replies thanking Amanda for not including everyone in the lab (or the team) as authors, which Alex believes will help them get the credit they deserve for their work. Third, one of the social science PIs who provided constructive criticism at the end of the writing process replies asking why they (and the rest of those who provided feedback) weren't included as authors, especially when they provided some of the data included in analyses.

Discussion Prompts

1. How should Amanda respond? What sorts of potential conflicts and values did you consider in making this decision?
2. What could the team do to help Amanda?
3. What advance steps could have been taken to prevent the emergence of conflicts as the manuscript was being prepared for publication by either Max or Amanda?

Teaching/Facilitation Notes

- Case style: This case study is designed as an interrupted case, whereby part 1 is distributed, read, discussed in small groups, then discussed together before doing the same for part 2 and finally for part 3.
- Format of groups: Small groups of 4-6 people are recommended. If the participants are diverse across career stages, and trust is already established among members, heterogeneous groups by career stage may be useful for exploring authorship issues. However, if trust has not already been established, or the participants do not know each other, it may be best for groups to be homogeneous by career stage.
- Timing: We suggest giving the participants 5-10 minutes to silently read each part and jot down individual answers to the discussion prompts before working in small groups.
- Confidentiality: Before beginning the case study, we recommend asking participants to keep the discussions confidential and for participants to carefully think about what they are willing to divulge with the group. Facilitators/teachers may wish to have information on-hand for participants (e.g., contact information for your institution's ombuds office, research integrity office, or local mentoring resources).
- Extensions of the case study: At the conclusion of the discussion, we recommend providing participants with: (1) a template to create a team authorship policy, and (2) an example team authorship policy (available at: Soranno and Cheruvelil 2019 https://doi.org/10.6084/m9.figshare.8321105.v1).

Selected resources for facilitators/teachers using this case

Bias and concerns about authorship practices

- Filardo, G., da Graca, B., Sass, D.M., Pollock, B.D., Smith, E.B. and Martinez, M.A.M., 2016. Trends and comparison of female first authorship in high impact medical journals: observational study (1994-2014). *BMJ*, *352*, p. I847. https://doi.org/10.1136/bmj.i847
- Sarsons, H., 2017. Recognition for group work: Gender differences in academia. *American Economic Review*, *107*(5), pp. 141-45.
- Settles, I.H., Brassel, S.T., Montgomery, G.M., Elliott, K.C., Soranno, P.A., Cheruvelil, K.S. 2018. Missing the mark: A new form of honorary authorship motivated by desires for inclusion. *Innovative Higher Education*, *43,* p. 303-319. https://doi.org/10.1007/s10755-018-9429-z
- West, J.D., Jacquet, J., King, M.M., Correll, S.J. and Bergstrom, C.T., 2013. The role of gender in scholarly authorship. *PloS ONE*, *8*(7), p. E66212. https://doi.org/10.1371/journal.pone.0066212

Authorship policies

- Frassl, M. A., Hamilton, D.P., Denfeld, B.A., de Eyto, E., Hampton, S.E., Keller, P.S., Sharma, S., Lewis, A.S.L., Weyhenmeyer, G.A., O'Reilly, C.M., Lofton, M.E., and Catalán, N. 2018. Ten simple rules for collaboratively writing a multi-authored paper. *PLOS Computational Biology, 14*, p. E1006508. https://doi.org/10.1371/journal.pcbi.1006508
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- Weltzin, J.F., Belote, R.T., Williams, L.T., Keller, J.K., and Engel, E.C. 2006. Authorship in ecology: attribution, accountability, and responsibility. *Frontiers in Ecology and the Environment 4*(8), p. 435-441.
- National Academy of Sciences. 2019. Transparency in Author Contributions in Science (TACS). http://www.nasonline.org/about-nas/Transparency_Author_Contributions.html.
- CASRAI. 2019. Contributor Roles Taxonomy (CRediT). "*CRediT is high-level taxonomy, including 14 roles, that can be used to represent the roles typically played by contributors to scientific scholarly output. The roles describe each contributor's specific contribution to the scholarly output*." https://www.casrai.org/credit.html.
  Soranno, P.A. and K.S. Cheruvelil. 2019. Template for creating team authorship policies for collaborative research. Figshare. https://doi.org/10.6084/m9.figshare.8321105.v1 Online Resource Accessed 4/25/2019.

Authorship and team culture

- Cheruvelil KS, Soranno PA, Weathers KC, Hanson PC, Goring SJ, Filstrup CT, et al. 2014. Creating and maintaining high-performing collaborative research teams: the importance of diversity and interpersonal skills. *Frontiers in Ecology and the Environment 12*(1), p. 31–38. https://doi.org/10.1890/130001
- Eigenbrode, S.D., O'Rourke, M., Wulfhorst, J.D., Althoff, D.M., Goldberg, C.S., Merrill, K., Morse, W., Nielsen-Pincus, M., Stephens, J., Winowiecki, L. and Bosque-Pérez, N.A. 2007. Employing philosophical dialogue in collaborative science. *BioScience*, *57*(1), pp.55-64. https://doi.org/10.1641/B570109
- Elliott, K. C., Settles, I.S., Montgomery, G.M., Brassel, S.T., Cheruvelil, K.S., and Soranno, P.A. 2017. Honorary authorship practices in environmental science teams: structural and cultural factors and solutions. *Accountability in Research: Policies and Quality Assurance 24*, p. 80–98. https://doi.org/10.1080/08989621.2016.1251320
- Read, E.K., O'Rourke, M., Hong, G.S., Hanson, P.C., Winslow, L.A., Crowley, S., Brewer, C.A. and Weathers, K.C., 2016. Building the team for team science. *Ecosphere*, *7*(3), p.e01291. https://doi.org/10.1002/ecs2.1291

Authorship scenarios to facilitate team discussions

- A scenario that facilitates discussions about what constitutes significant intellectual contributions to a research project: https://www.onlineethics.org/Resources/gradres/gradresv6/vol6authorship.aspx
- A scenario that explores how to navigate authorship when the tasks of team members change over the course of a research project: https://www.onlineethics.org/Resources/gradres/gradresv6/friendship.aspx
- A scenario exploring when to include senior faculty members as authors: https://www.onlineethics.org/Resources/TeachingTools/Modules/19237/resethpages/outrage.aspx
- A role-play scenario that facilitates reflection about cases in which a relatively low-power individual is concerned about authorship practices on a team: https://www.onlineethics.org/Resources/RCRroleplays/21332.aspx