

Power balance (imbalance)

I. Learning objectives

- To recognize the existence of power imbalances within citizen science (CS) projects
- To understand the importance of recognizing the various expectations that people may have
- To provide solutions for how to best address power imbalances within CS projects

II. Target group(s)

x Master's students

x Doctoral students

x Supervisors

III. Determining a story

Joana is a second-year master's student in ecology and has recently been involved as a research assistant in a large project that aims to investigate how the bumblebee population is affected by the rising temperatures and climate change in southern Finland. Her main responsibility is to help collect data and, to a somewhat lesser extent, to compile the data. The project involves a large number of citizen scientists, and while Joana is employed by her university as a research assistant, most participants who help collect data are doing so on a voluntary basis. Some participate out of mere curiosity, some do it as a family activity, some are school teachers, and some are climate activists. Some of the volunteer citizen scientists have been part of the project for several years. Joana is now told by her colleagues at the university that they are planning to write a research article based on the results that they have gathered so far, intending to publish it in a scientific journal. They ask Joana whether she would like to be included as a co-author, given how she has contributed to the data collection. She wonders who else will participate in co-writing the report, and is told that it would be the researchers at her department, without the inclusion of the volunteer citizen scientists. Unlike the university-employed researchers in the project, the citizen scientists are assumed to lack the relevant academic training. Some of Joana's colleagues also say that the volunteers would likely not even be interested in co-authorship.

What should Joana do under these circumstances?

Answer options

1. Joana should accept the invitation to be a co-author. It would provide a perfect opportunity for her to get relevant credit and experience to secure an academic career.
2. Joana should accept the invitation to be a co-author, but to avoid potential conflicts between the researchers and the citizen scientists in the project, she should also make sure that the citizen scientists are properly acknowledged in the research article, for example, by being mentioned in the acknowledgements or the contributor statement.
3. Joana should try to convince her colleagues at the university of the importance of having an inclusionary dialogue with everyone involved in the project – including the citizen scientists – about the dissemination of research results and how they may like to be credited for their contributions.
4. Joana should decline the invitation to be a co-author because she has not been contributing as much to the study as have some of the citizen scientists. Accepting the invitation would be unfair and disrespectful towards those citizen scientists who have made larger contributions to the study than Joana has.
5. Joana needs to find out more about what it means to be a co-author of a research paper and to what extent it may be appropriate to include or exclude citizen scientists from co-authorship.

IV. Game design elements

Instructions

Option A1 Topic-by-topic, individually

For learners:

- familiarise yourself with the topic in the *Guidelines* (10 min), then
- read a corresponding vignette (5 min),
- choose one answer option (5 min), and
- access the score and the feedback (1 min).
- Follow-up discussion. Share your answers and discuss the choice you have made and the rationale behind the choice (10 min).

Total duration: 35 min

Option A2 Topic-by-topic with a facilitator (in-team)

For facilitators:

- inform learners of the time allocated to read the topic in the *Guidelines* (10 min), then
- introduce the corresponding vignette (e.g., by reading) and the answer options (10 min),
- explain how the answer options should be understood and emphasise that only one answer option may be chosen (5 min),
- once the chosen answer options are reported, summarise the results and announce the right answer (5 min),
- present scores for all answer options and discuss the options using feedback (5 min), and
- actively moderate the discussion.

Total duration: 35 min

Answer scores	
1. Joana should accept the invitation to be a co-author. It provides a perfect opportunity for her to get relevant credit and experience to secure an academic career.	0
2. Joana should accept the invitation to be a co-author, but she should also make sure that the citizen scientists are properly acknowledged in the research article, for example, by being mentioned in the acknowledgements or contributor statement.	5
3. Joana should try to convince her colleagues at the university that they should at least have an inclusionary dialogue with everyone involved in the project – including the citizen scientists – about the dissemination of research results and how they would like to be credited for their contributions.	10
4. Joana should decline the invitation to be a co-author because she has not contributed as much as some of the citizen scientists. Accepting the invitation would be unfair and disrespectful towards those citizen scientists who have made larger contributions to the study than Joana.	5
5. Joana needs to find out more about what it means to be a co-author of a research paper and to what extent it may be appropriate to include or exclude citizen scientists from co-authorship.	5
Feedback	
<p>It is important to recognize that there may be a range of different power imbalances within a specific citizen project due to differences in academic level or training, and in how the people involved are compensated or credited for their work. Some of these imbalances may result in the exploitation and instrumentalisation of citizen scientists and related tensions between professional researchers and citizen scientists. For example, there is a risk that professional researchers, either knowingly or accidentally, might exploit the goodwill of citizen scientists due to different expectations regarding the project and its outputs. If citizen scientists do not feel that they are treated fairly or with the type of respect owed to them as persons, this might jeopardise the CS project and undermine future collaboration. It is therefore important that professional researchers take proactive responsibility to avoid the risk of exploiting or instrumentalising citizen scientists and encourage an inclusionary dialogue between professional researchers and citizen scientists. Although the form of communication that is suitable to this end depends on the scale and nature of the project, questions that should be addressed in such a dialogue are: Why do citizens wish to contribute and what do they wish to gain from participating in the project? How do they wish to be credited and how do they wish to contribute to the project? How do they want the information about the project as well as its data and results to be disseminated? The correct thing to do for Joana, then, is to try to convince her colleagues of the importance of having an inclusionary dialogue about these issues with everyone involved.</p>	

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