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What should we give back to our participants? A literature review on citizen scientists' preferences for accessibility of scientific output

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Introduction

Method

- The importance of giving feedback to citizen science participants is widely accepted
- The "Ten principles of citizen science" defined by ECSA also underline the importance of communicating project findings and acknowledging participants
- However, almost no academic paper has specifically investigated this topic into more detail
- Our literature review is an important starting point for research in this direction

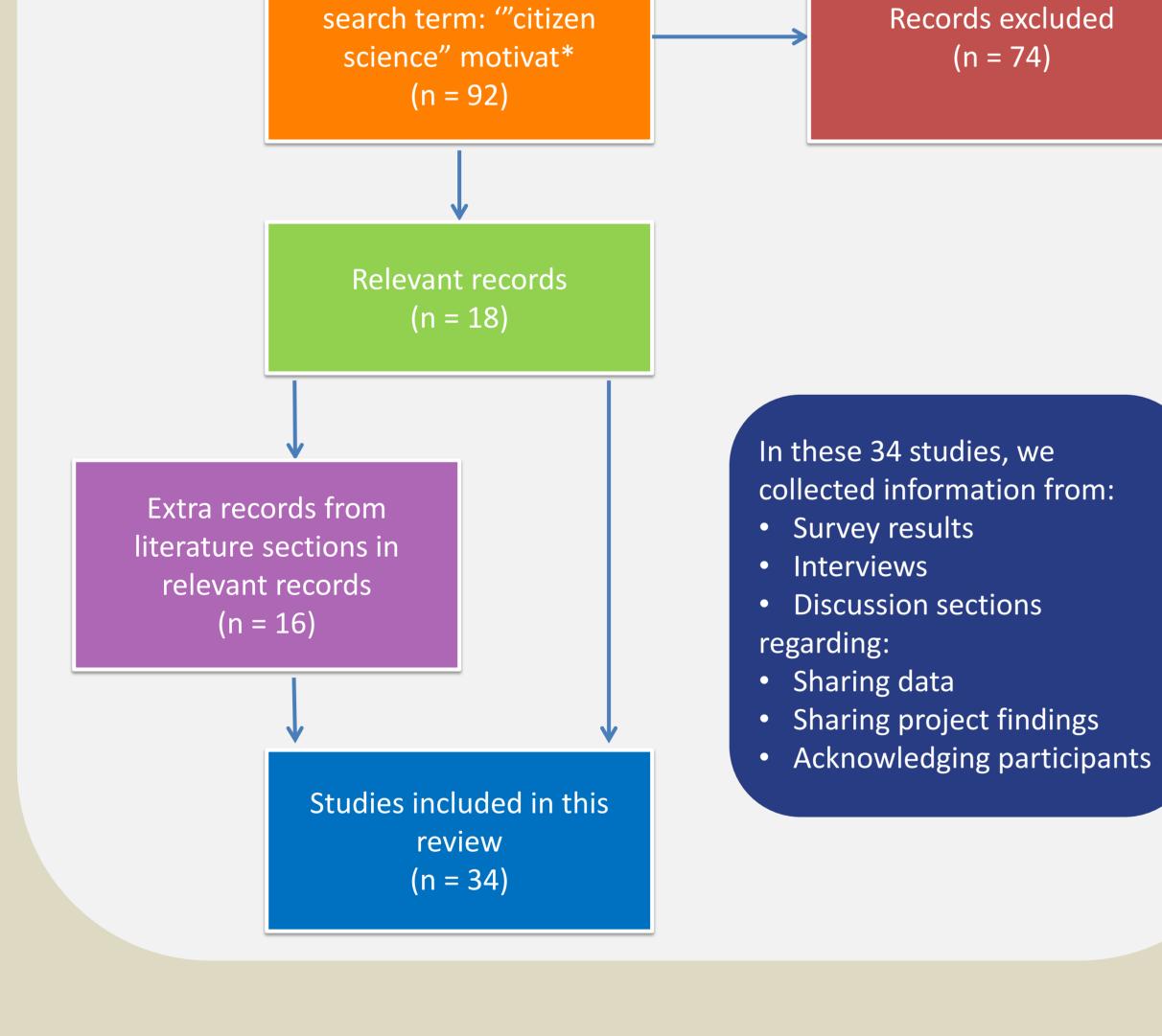
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"It's not about spending time or money. It's more about the constant feedback to the volunteers that what we're doing is useful and being used." (Rotman et al. 2012: 221)

"Just a name and this X and that Y was contributed by this or that person. Something simple... is like a big thing for a normal person, ..., that way we encourage all to do it more ..." (Rotman et al. 2014: 116)

> "There was no feedback and it made me feel as though what I was doing wasn't even for real." (Baruch, May and Yu 2016: 927)

"People won't come back if there isn't that loop of credibility and things that they can see that are being accomplished as a result of the data



that they are collecting." (Rotman et al. 2012: 223)

Results

Participants find sharing data important, examples:

- Ferster et al. (2013): most participants agreed that "Data collected by volunteers should be shared with the volunteers who collected them"
- Ganzevoort et al. (2017): 48.7% of the participants felt that the data from their citizen science project are public good
- Budhathoki and Haythornthwaite (2012): participants on average agreed that their data should be available for free with a score of 6.45 (out of 7)

Participants find sharing project results important, examples:

- Ganzevoort et al. (2017): 69.1% of the participants were interested in getting insight into how others use their data
- Alender (2016): more than 90% of the participants agreed or strongly agreed with the statement "I feel good when data and/or results are shared with me"

Discussion

- The literature review stresses the importance of communicating project outcomes to participants
- This is in line with the ECSA guidelines and general consensus among project coordinators
- However, our review also illustrates a need for further research on this topic: no research has been done on <u>how</u> to communicate project outcomes best
- Future research should study different methods for doing so in order to maximize the impact of citizen science projects

• Baruch, May and Yu (2016): a lack of clarity on how participants' data are used is

mentioned by participants as a reason to stop contributing to the project

Participants want to be acknowledged in publications, examples:

- Alender (2016): approximately 40% of the participants found "Name recognition
 - in a scientific publication" meaningful
- Rotman et al. (2012): participants reported that it is important to acknowledge
 - participants when their data are used by scientists for publications

References: Alender, B., 2016. Understanding volunteer motivations to participate in citizen science projects: a deeper look at water quality monitoring. *Journal of Science Communication*, 15(3): A04. Baruch, A., May, A. and Yu, D., 2016. The motivations, enablers and barriers for voluntary participation in an online crowdsourcing platform. *Computers in Human Behavior*, 64: 923-931. Budhathoki, N. R. and Haythornthwaite, C., 2012. Motivation for Open Collaboration: Crowd and Community Models and the Case of OpenStreetMap. *American Behavioral Scientist*, 57(5): 548-575. Ferster, C. J., Coops, N. C., Harshaw, H. W., Kozak, R. A. and Meitner, M. J., 2013. An Exploratory Assessment of a Smartphone Application for Public Participation in Forest Fuels Measurement in the Wildland-Urban Interface. *Forests*, 4(4): 1199-1219. Ganzevoort, W., Born, R. J. G. van den, Halffman, W. and Turnhout, S., 2017. Sharing biodiversity data: citizen scientists' concerns and motivations. *Biodiversity and Conservation*, 26(12): 2821-2837. Rotman, D., Preece, J., Hammock, J., Procita, K., Hansen, D., Parr, C. et al., 2012. Dynamic changes in motivation in collaborative citizen-science projects. In: Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work, Seattle, WA on 11-15 February 2012, pp. 217-226. Rotman, D., Hammock, J., Preece, J., Hansen, D., Boston, C., Bowser, A. et al., 2014. Motivations Affecting Initial and Long-Term Participation in Citizen Science Projects in Three Countries. In: iConference 2014 Proceedings, Berlin, Germany on 04-07 March 2014, pp. 110-124.