The Strengths and Weaknesses of Citizen Science

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Author Note

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Citizen science is about conducting scientific research, in an amateur manner. Some people refer to citizen science as public participation in science and technology. The critics however, claim that citizen science limits or disrupts well-acknowledged concepts, which otherwise would have been beneficial (Bonney et al. 2014). They view this concept as not participatory, but rather, unnecessary. Contrary to the critic’s viewpoints, a large number of people have started recognizing that citizen science is becoming helpful in many ways. For example, they view this with a perception of increasing participation of information technology (Bonney et al. 2014). Citizen science contrarily is a newer concept and had remained unable to grasp the attention of the wider community. Irwin believes that citizen science employs limited resources and is carried by people who have less understanding, therefore it is restricted to limited areas, such as natural sciences (Irwin 2002). Though people have been exploring nature in many different ways, therefore, citizen science in this domain is considered traditional.

# Pros and Cons of Citizen Science

Similar to the contending views of scientists, the pros and cons of citizen science are not very clear. However, Cohn has attempted to view citizen science in a holistic manner (Cohn 2008). According to him, some of the pros and cons of citizen science are as follows.

*Pros:* Citizen Science creates an environment conducive of the inputs from the general public about science-related aspects. It relates the small findings or general concepts with the concepts being worked over at a global level (Cohn 2008). It also helps in gathering data. People who conduct research about a certain aspect post it online which aids data collection as well. Silvertown believes that citizen research has helped to bridge the gap between people and scientists as many surveys are there, about many different concepts (Silvertown 2009).

*Cons:* citizen sciences methodology is restricted, it cannot answer each aspect. Similarly, Silvertown believes that it is more random, and no findings could be based on the inputs through such methodologies (Silvertown 2009). Community engagement through citizen science is also not planned, and modern research requires planned and more coherent community engagement. Another important and negative aspect attributed to citizen science is data biases, which can disrupt the research result (Louv and Fitzpatrick 2012).

# Citizen Science and Dog research

The dog is one of the most commonly kept pet animals. From early times, people have kept this animal as a pet and it has also served humans at times of crisis and relief. It is a bit related to the naturalist aspect of citizen science, but the findings of citizen science differ massively. The one reason why these findings differ are the different perspectives involve in examining dog behavior. Those who own dogs are the best audience to conduct any experiment over dog abilities since they had been much aware of dog cognition (Stewart et al. 2015). There had been many different types of researches about dogs that are based on citizen science findings and they had been much support for it as well. But the general scientific manners that are applied in qualitative research about studying dog behavior remains absent in citizen science (Stewart et al. 2015).

Hecht and Rice believe that dogs, being a widely kept animal, have resulted in the emergence of different perceptions about their behaviors (Hecht and Rice 2015). Some of these perceptions conform to the findings of qualitative research over dogs and some do not. In order to discuss the findings of citizen science about dogs, it remains imprinted to synchronize the basic data collection techniques or at least create a common ground for research. Similarly, Hecht and Rice believe that as like different disciplines of science, citizen science has also remained unsuccessful in providing substantial inputs about dog behavior and cognition (Hecht and Rice 2015).

# References:

Bonney, Rick, et al. 2014. “Next Steps for Citizen Science.” *Science* 343(6178): 1436–1437.

Cohn, Jeffrey P. 2008. “Citizen Science: Can Volunteers Do Real Research?” *BioScience* 58(3): 192–197.

Hecht, Julie, and Eleanor Spicer Rice. 2015. “Citizen Science: A New Direction in Canine Behavior Research.” *Behavioral processes* 110: 125–132.

Irwin, Alan. 2002. *Citizen Science: A Study of People, Expertise and Sustainable Development*. Routledge.

Louv, Richard, and John W. Fitzpatrick. 2012. *Citizen Science: Public Participation in Environmental Research*. Cornell University Press.

Silvertown, Jonathan. 2009. “A New Dawn for Citizen Science.” *Trends in ecology & evolution* 24(9): 467–471.

Stewart, Laughlin, et al. 2015. “Citizen Science as a New Tool in Dog Cognition Research.” *PLoS One* 10(9): e0135176.