Collaborate Learning Discussion 2 - Case Study: Accuracy of Information

Initial Post by Zihaad Khan

The case study presented is about Abi, a researcher and statistical programmer who has received a project from a manufacturer to review the nutritional value of a new cereal called Whizzz. Abi finds himself in a predicament after analysing the results which indicate that Whizzz may not be nutritious and could possibly be harmful to the public. Abi has statistics to support both sides of this issue.

As a researcher and statistical programmer Abi is bound by various code of ethics, like the Ethical Guidelines for Statistical Practice by the American Statistical Association (ASA, 2022). According to these guidelines Abi has a professional responsibility to perform research with integrity and to report his findings truthfully and accurately, regardless of the outcome or the way he feels. It would be unethical for Abi to suggest analysing correct data in a way that supports two or more conclusions.

Abi has an ethical, social, legal and professional obligation to report all of the positive and negative findings of his research according to the ACM Code of Ethics (ACM, 2018) and the American Statistical Association (ASA, 2022). If any data is omitted or if the results are biased, the integrity which is a necessary driver of research (Lowenberg & Puebla, 2022) can be questioned. Without a thorough set of results, both positive and negative, the manufacturer will not be given a comprehensive representation of the research and will not be able to make an informed decision.

According to the American Statistical Association (ASA, 2022), statisticians have a responsibility to ensure that their work is used appropriately, for their intended purpose

and in accordance with ethical and legal standards. This would apply to Abi as well. Specifically, the guidelines mention that statistical work is to be used for its intended purpose only, and not used to mislead or misrepresent information (ASA, 2022). This is echoed by the ACM Code of Ethics as well (ACM, 2018). However, while Abi is responsible for taking reasonable steps to ensure that his results are used appropriately, he cannot control how others use his results once published.

If Abi suspects that the manufacturer will only publicise the positive results, he should confront the manufacturer and explain to them the ethical and legal implications of doing so. Both results should be presented together.

In conclusion, research findings are often used to make critical decisions as well as develop and shape policies in many instances. It is for this reason that research must be conducted accurately and with integrity. Any manipulation of the data or analysis can undermine the credibility of the research, which can have significant legal, social, and professional implications.

References

ACM (2018) Association for Computing Machinery. ACM Code of Ethics and Professional Conduct. Available from: https://www.acm.org/code-of-ethics [Accessed 12 March 2023].

ASA (2022) American Statistical Association. Ethical Guidelines for Statistical Practice. Available from: https://www.amstat.org/your-career/ethical-guidelines-for-statistical-practice [Accessed 12 March 2023].

Lowenberg, D & Puebla, I (2022) Responsible handling of ethics in data publication. *PLoS Biol* 20(3): 1-2. Available from: https://doi.org/10.1371/journal.pbio.3001606 [Accessed 13 March 2023].