Research Methods and Professional Practice June 2022

« Collaborative Learning Discussion 2

Taylor Edgell

Initial Post

40 days ago

3 replies

Last 30 days ago

The relationship between ethics and data analysis is paramount when undertaking a given piece or research. This includes undertaking an analysis without a given bias that could skew the outcome. The researcher in any case must provide outcomes influenced by the data, and not put forward false conclusions. The best course of action is to allow the data to speak for itself. It can be understood that there are many complexities in data analysis making it difficult to “prevent ethical breaches or to practice ethical data use” (Estevaet al. , 2021), so the ownness is on the research to ensure its veracity.

In the provided case study Abi has reached an impasse as to the results regarding the nutritional information of the cereal “Whizz” that he has been studying. Nutritional information is increasingly used by shoppers when making food purchasing decisions, so it is paramount the presented information is accurate (Van der Merwe &Venter. ,2010).

Under current European nutritional regulations, any health claims of a product must be clear, reliable, and substantiated by scientific evidence (Buttriss, 2018). This would mean that Abi would be legally obligated to provide all analysed information both positive and negative. All information must be unobscured, so all result must be fairly presented and scientifically verifiable if Whizzz is to be presented as a nutritional cereal.

There is precedent, as a matter of good practise, for data to be viewed from a variety of perspective. One key factor that should be understood when doing this is that of validity. It can be understood that by “failing to assess the validity of the value claimed creates an implicit motivation for failures of diligence or even deliberate misuses of statistics” (Rosnow & Rosenthal, 2011). To maintain a good sense of ethics, data should be able to correspond and match outcomes that are put forward and concluded from a piece of research.

Although Abi is not accountable for what others use his data to justify, he has an implicit responsibility to ensure that the data is correct, factual, un-biased and most importantly truthful. When presenting his data Abi would need to make sure to avoid questionable research practises such as selective reporting of clean results, exploiting analytical flexibility, and altering results post research to meet a given hypothesis (Baldwin et al., 2020). If Abi ensure his data is repeatable and robust towards data interpretation, then he will be acting in an ethical manner.

If Abi is of the understanding that his research will be misused, he has an ethical duty to ensure Whizz are warned against this, and to report any misuse to the appropriate body. In some instances, if Abi believes the research results are themselves are unethical, he could retract his findings. This would allow his to “to maintain the integrity of academic research” (Bülow et al. ,2021), and ensure his results are presented ethically,

This case study presents many important ethical considerations that are apparent in data analysis, and provides a good representation of the questions to be considered.

References

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Rosnow, R.L. and Rosenthal, R., 2011. Ethical principles in data analysis: An overview. Handbook of ethics in quantitative methodology, pp.57-78.

Reply

3 replies

1

Post by **Steph Paladini**
Re: Initial Post

39 days ago

Hello Taylor,

absolutely.

I will elaborate on the ethical pitfalls of statistical analysis in this next week's seminar.

Best wishes,

Steph

Reply

2

Post by **Doug Leece**
Peer response

32 days ago

Thank you Taylor for identifying the interesting research on resolving research bias via pre-registration (Baldwin et al, 2022). This approach seems plausible although I anticipate it will take more time, something industry funded research would be unlikely to embrace (Cottrell, 2014). Although you have identified a number of things the researcher should do in the name of ethical research, Cottrell's report outlines how the current scientific review process is quite flawed, increasing the temptation to generate a report favourable to his client.

The retraction idea is noble but requires a similar level of personal integrity, Campos-Varela & Ruano-Ravina (2019) found an average of only 2.5 of 10,000 papers were retracted, aligning with Fanelli's (2013) claim that only the most egregious ethical research violations are identified and dealt with.

There is no doubt that the general public needs to be able to trust the scientific process, the millions of lived saved through Covid vaccine testing to ensure only the most effective products were available is nothing short of wonderful. Researching this case study for both my posting and peer response has left me with the strong impression scientific integrity is primarily reliant on the researcher's personal ethics, not something the community can enforce.

References:

Baldwin, J.R., Pingault, J.B., Schoeler, T., Sallis, H.M. and Munafò, M.R., 2022. Protecting against researcher bias in secondary data analysis: challenges and potential solutions. *European Journal of Epidemiology*, 37(1), pp.1-10.

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Cottrell, R. C. (2014) Scientific integrity and the market for lemons. *Research Ethics*, 10(1): 17–28. doi: 10.1177/1747016113494651.

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Minimum rating: -

3

Post by **Michael Justus**
Peer Response

30 days ago

Hi Taylor,

I enjoyed reading your post because it was thoughtful toward the data aspect of research.

Your statement succinctly sums up ethical research: "allow the data to speak for itself." It showed how Abi reached an impasse: the obligation under EU regulations to publish, "both positive and negative", and that data should correspond to outcomes concluded from research. I think it must be quite a difficult challenge for researchers to retract their findings if they believe the research results are unethical.

Fortunately, no person is an island--Abi is not alone in their dilemma--as Gureev et al. (2019) point out concerning unethical authorship issues in scientific publications. In their research, they looked at unfair authorship in scientific publications, the most common violation of publication ethics: unfairly including (as authors) people who do not meet the criteria for authorship and concealing the real performers of scientific work. They attribute this unethical behaviour to three concerns: the imperfection of the science management system, which requires high rates of research publication activity; implementation of partly discriminatory policies of journals against young authors that forces them to include authoritative scientists as co-authors; and conflicts of interest in medical publications, which prompt pharmaceutical companies to exclude real the performers of the work.

References

Gureev, V.N., Lakizo, I.G. and Mazov, N.A., (2019). Unethical authorship in scientific publications (a review of the problem). Scientific and Technical Information Processing, 46(4):219-232.

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