**Summary Post for Collaborative Discussion no. 2**

This brief post discusses the social, legal, and deontological implications of the decisions a researched named Abi made when working on a project for a food manufacturer to assess the nutritional values of a new cereal called ‘Whizzz’. In theory, science should strive to derive true findings in an unbiased manner, without being influenced by any financial gain, including when academic institutions collaborate with industry partners (Cullerton *et al*., 2019; Kretser *et al*., 2019). Nevertheless, in practice, industry sponsorship may influence the direction of and outcomes from a scientific research study and its associated published findings (Chartres *et al*., 2019; Rao, 2022).

Nutrition is a key driver of societal health and, thus, lack of or poor nutrition may result in pathologies and needs to be understood and monitored to ensure public health policies can help with managing its effects (Wallace *et al*., 2020; Lillford & Hermansson, 2021), whilst addressing the underlying root cause of social inequality. Nevertheless, sciences investigating nutrition must be performed with integrity to ensure findings are credible and can inform tangible actions. Despite this key principle, nutrition-related studies, which are sponsored by food, drinks, and supplements manufacturing companies, have been found biased due to financial interests in their results (Chartres *et al*., 2019; Rao, 2022). Abi’s case is a relevant example of such a sponsorship bias, which may have a detrimental impact on public health. Whilst it cannot be enforced legally due to the free nature of scientific pursuits, data should be made publicly available upon publication and independent studies should be encouraged to reproduce Abi’s results to ensure they are accurate and reliable (Allison *et al*., 2018). At the very least, instructions, along with a detailed description of the data used and the key parameters, should be provided to enable independent researchers to replicate Abi’s study (Gelman, 2017), if full reproducibility cannot be achieved.

To ensure research is conducted ethically, regardless of its focus on the food industry, its design should not intrinsically lead to any specific outcomes prior to conducting it (Kretser *et al*., 2019; Lillford & Hermansson, 2021), i.e., regardless of the data collected and analysed downstream; furthermore, an ethical agreement needs to be set between the sponsor and the researcher, and such conflicts of interests must be declared upon submission of a research study for possible publication. Any manipulations of data and/or results from a research study would be examples of scientific misconduct, which may result in retracted manuscripts, fines, and/or other legal and economic downsides for the interested parties (Chartres *et al*., 2019; Rao, 2022). Thus, to protect Abi’s research integrity, the study must be designed and conducted in an unbiased manner and grounded on quantitative data. Conflicts of interests must be declared for additional transparency.

**References**

Allison, D. B., Shiffrin, R. M., & Stodden, V. (2018) Reproducibility of research: Issues and proposed remedies. *Proceedings of the National Academy of Sciences* *115*(11): 2561-2562.

Chartres, N., Fabbri, A., McDonald, S., Turton, J., Allman-Farinelli, M., McKenzie, J., & Bero, L. (2019) Association of industry ties with outcomes of studies examining the effect of wholegrain foods on cardiovascular disease and mortality: systematic review and meta-analysis. *BMJ open* 9(5): e022912.

Cullerton, K., Adams, J., Forouhi, N., Francis, O., & White, M. (2019) What principles should guide interactions between population health researchers and the food industry? Systematic scoping review of peer‐reviewed and grey literature. *Obesity Reviews* *20*(8): 1073-1084.

Gelman, A. (2017) Ethics and statistics: Honesty and transparency are not enough. Chance *30*(1): 37-39.

Kretser, A., Murphy, D., Bertuzzi, S., Abraham, T., Allison, D. B., Boor, K. J., ... & Yada, R. (2019) Scientific integrity principles and best practices: recommendations from a scientific integrity consortium. *Science and Engineering Ethics* *25*: 327-355.

Lillford, P., & Hermansson, A. M. (2021) Global missions and the critical needs of food science and technology. *Trends in Food Science & Technology* *111*: 800-811.

Rao, A. (2022) Industry-funded research and bias in food science. *Quantitative Marketing and Economics* *20*(1): 39-67.

Wallace, T. C., Bailey, R. L., Blumberg, J. B., Burton-Freeman, B., Chen, C. O., Crowe-White, K. M., ... & Wang, D. D. (2020) Fruits, vegetables, and health: A comprehensive narrative, umbrella review of the science and recommendations for enhanced public policy to improve intake. *Critical reviews in food science and nutrition* *60*(13): 2174-2211.