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Case details

Presenter of case: Andreas Martin Lisewski

COPE member involved: *Science* (American Association for the Advancement of Science)

Date at which case was received: 31 January 2024

Article involved:
Michael Worobey *et al*., The Huanan Seafood Wholesale Market in Wuhan was the early epicenter of the COVID-19 pandemic. Science 377,951-959 (2022). DOI: 10.1126/science.abp8715

Correction: https://www.science.org/doi/10.1126/science.adp1133

Category of concern: Concern about lack of correction to article record following modification to the data underlying the study

Scope of review by subcommittee

Taking into consideration the scope of the Facilitation and Integrity subcommittee, the review focuses on the procedural aspects of the journal's evaluation of concerns about the article and the process that informed whether the version of record for the article required a correction.

The following items fall beyond the scope of the subcommittee's review:

- The editorial decision on the choice of notification to post on the article as a result of the journal's follow up
- An evaluation of the scholarly content of the publication or of the data underlying the study

Summary of issue, as outlined by presenter

Worobey et al. published their study in Science magazine (COPE member) on 26 July 2022 (https://www.science.org/doi/10.1126/science.abp8715)

Already in August 2022, data errors (duplicate and missing data) were pointed out to Science senior editor Dr. Caroline Ash and to the corresponding authors, Dr. Michael Worobey and Dr. Kristian G. Andersen, in a Technical Comment by submitter Dr. Andreas Martin Lisewski (manuscript ade3852 submitted to Science magazine on 12 August 2022; editorially rejected on 4 October 2022).

These data errors along with related data analysis problems were then published in accompanying Science eLetter on 10 April 2023 (https://www.science.org/doi/10.1126/science.abp8715#elettersSection) by Lisewski.

In a response to this Science eLetter, members of the authors group of the Worobey et al. 2022 study as well as outside individuals manipulated (in May 2023) the published data of the Worobey et al. 2022 study.

This data manipulation thus occurred more than 9 months after the original publication of the Science article from 26 July 2022.

No consent from the entire group of authors nor from their corresponding authors (Worobey, Andersen) had been produced in conjunction with the altered (manipulated) study.

No editorial statement had been published in conjunction with the altered study.

This manipulation violates the journal's (Science, a COPE member) own rules on Research Standards and Publication Policies have been violated (e.g., Data and Materials Availability after Publication, see https://www.science.org/content/page/science-journals-editorial-policies#data-and-code-deposition) as well as COPE core practices (Data and reproducibility).

The manipulated data in Worobey et al 2022 therefore needs to be editorially retracted, including all affected analyses, results and interpretations.

Member's response

First, thank you for the great work done by COPE to promote understanding of publication ethics. Thank you too for forwarding Dr Lisewski's enquiries about https://www.science.org/doi/10.1126/science.abp8715. I think there is a misunderstanding here. We are aware of the corrections made to the data to address Dr Lisewski's concerns and this is noted in a correction added to the top of the Supplementary Material file on May 8 2023 that is copied below. The Zenodo entry https://zenodo.org/records/7887816 (reference #53 in the above paper) also contains a correction notice dated 2 May 2023. We appreciate that this correction could be difficult to find. To address this, we plan to add a note to the pdf and to the html file.

"CORRECTION: It has been brought to our attention that two files in the GitHub repository associated with our paper located at:https://www.science.org/doi/10.1126/science.abp8715 (https://github.com/sars-cov-2-origins/huanan-market/tree/main/data and http://doi.org/10.5281/zenodo.6786454) were identical: 'distance_popdensityagegroups_null_35.csv' and 'distance_popdensityagegroups_null_120.csv'. These files included median distances to the Huanan market of locations drawn from a Wuhan population density map, as described in our paper. Upon inspection of these files, we further noticed that the number of pseudoreplicates contained in them, and in one additional file ('distance_popdensityagegroups_null_155.csv'), was 10,000 rather than the n = 1000 used for all related analyses. We therefore generated new, n = 1000 versions of these files and re-ran all statistical tests involving them. All results remained the same as previously reported: $p < 0.001$ and p-Adjusted (BH) = 0.003 for each of the corrected 'distance_popdensityagegroups_null_35. csv', 'distance_popdensityagegroups_null_120. csv', and distance_popdensityagegroups_null_155.csv' (see table S4). We have uploaded the three corrected files to our GitHub repository and archived the updated repository on Zenodo (https://doi.org/10.5281/zenodo.7887816)."

To provide a timeline; In August 2022 Dr Lisewski submitted a Technical comment on the manuscript "The Huanan Seafood Wholesale Market in Wuhan was the early epicenter of the COVID-19 pandemic." We evaluated this together with a response from the authors and decided that the exchange was well-suited to our E-letter format. An E-Letter from Dr Lisewski was posted on October 16 2022. On 10 November 2022, Dr Lisewski alerted us that he had submitted a second E-Letter that reported duplicated and missing data. We decided against posting a second letter, but around the same time the authors became aware of a preprint by Dr Lisewski that mentioned the duplicate files and let us and Dr Lisewski know that there indeed was an error, and that they were investigating. By late November Dr Worobey informed us that they had corrected the duplicated null distribution files and that this did not change the statistical results, but they agreed that a correction was necessary.

While our communications with Dr Worobey were in process, Dr Lisewski again submitted an E-Letter reporting the duplicated data and we posted this on April 10 2023. Science prompted Worobey et al. to get the matter resolved (20 April 2023). The authors explained to us that the delay in posting the corrected files was caused by the co-author responsible for data being seriously ill and out of communication; as noted above corrections were posted to our Supplementary file and to Zenodo in May 2023.

Member's response to COPE's request for clarification about the form the public notification for the article would take

We do plan to publish an indexed correction here. We will get this done as soon as possible.

COPE's review

A member of the Facilitation & Integrity subcommittee reviewed the information submitted by the presenter and deemed the case to fall within the scope of the Facilitation & Integrity process.

COPE approached the journal for comments on Dr Lisewski's concerns. The journal indicated that they followed up on the concerns raised by following up with the authors and posted an initial Technical comment by Dr Lisewski. The authors acknowledged there was an error in the dataset and agreed a correction was necessary. While the follow up with the authors was ongoing, the journal posted a second Letter by Dr Lisewski reporting the duplicated data. The authors made corrections to the dataset and the journal added text to note the change to the Supplementary Material file for the article. The journal acknowledged that this language could be difficult to find by readers and indicated they planned to add a note to the pdf and html files for the article.

The subcommittee reviewed the response and followed up with the journal to enquire about the form the intended public note for the article would take. The subcommittee advised that to ensure that the change to the dataset is visible to readers and that the notification is correctly indexed, a Correction should be published on the article to alert readers that the dataset underlying the study had been

updated. The journal confirmed that an indexed correction would be published. The Correction has now been processed.

The Facilitation & Integrity subcommittee member reviewed the information provided by the journal and established that it provided adequate procedural information on the journal's follow up.

Conclusions

Upon consideration of the concerns and the member's response, the Facilitation & Integrity subcommittee considers that the journal followed an adequate process aligned to COPE guidelines to follow up on the concerns raised to their attention. The journal process involved contacts with the authors about the dataset, the publication of two letters submitted by the presenter, and the publication of a Correction to alert readers to the change to the data set underlying the study.

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