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Stat checkers: make reproducible computer code mandatory

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Stat checkers: make reproducible computer code mandatory

Errors in reported statistical values are still worryingly prevalent, despite scientific journals' increasing reliance on software such as statcheck to detect errors in P values in submitted manuscripts (see Nature https://doi.org/j48b;2023). We suggest that this ubiquity underscores a larger and more pressing issue: a lack of reproducible computer code. The scientific community needs to share code to identify and minimize errors in the literature and promote reliable science.

Using reproducible code can help to eliminate the need for online applications such as statcheck. We urge researchers to use common programs such as R Markdown (www.rstudio.com), Quarto (https://quarto.org) or Stata Reporting (https://go.nature.com/3mcyiis) to extract the statistics from their analyses and integrate them into a document that can be converted easily to Microsoft Word, LaTex or HTML files for sharing purposes. This approach reduces the potential for errors in reporting statistics, increases accessibility and promotes transparency.

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