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Update for paragraph 15.3.1

EVIDENCE CONFIRMING THE SIGNIFICANT SCALE OF FALSIFICATION AND FABRICATION OF RESEARCH DATA

Reports of high-profile instances of scientific malpractice in the biosciences might have been expected to act as a deterrent to such behaviour, but recent evidence suggests that it remains common. It is, of course, intrinsically difficult to investigate the frequency with which scientists fabricate and falsify data, or commit other forms of scientific misconduct. Many surveys have asked scientists directly whether they have committed, or know of a colleague who committed, research misconduct, but the results are often difficult to compare and synthesize. However, the first meta-analysis of these surveys has now been published.

In this study, in order to standardize outcomes, the number of respondents who recalled at least one incident of misconduct was calculated for each question, and the analysis was limited to forms of behaviour would that distort scientific knowledge, e.g. fabrication, falsification and data 'cooking'. The final sample consisted of 21 surveys that were included in the systematic review and 18 in the meta-analysis.

A pooled weighted average of 1.97% of scientists admitted to have fabricated, falsified or modified data or results at least once – which is surely a serious form of misconduct by any standard – and up to 33.7% admitted to other questionable research practices. In surveys asking about their colleagues' behaviour, it is interesting that admission rates were 14.12% for falsification, and up to 72% for other questionable research practices. Meta-regression showed that self-report surveys, surveys using the words 'falsification' or 'fabrication', and mailed surveys yielded lower percentages of misconduct. Disturbingly for the bioscience community, it was apparent that misconduct was reported more frequently by medical/pharmacological researchers than by others.

The paper concluded that: 'Considering that these surveys ask sensitive questions and have other limitations, it appears likely that this is a conservative estimate of the true prevalence of scientific misconduct.'

Website reference:

<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0005738>