

## 9.2: Just Leave out the Details

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Nitpicking statisticians getting you down by pointing out flaws in your paper? There's one clear solution: don't publish as much detail! They can't find the errors if you don't say how you evaluated your data.

I don't mean to seriously suggest that evil scientists do this intentionally, although perhaps some do. More frequently, details are left out because authors simply forgot to include them, or because journal space limits force their omission.

It's possible to evaluate studies to see what they left out. Scientists leading medical trials are required to provide detailed study plans to ethical review boards before starting a trial, so one group of researchers obtained a collection of these plans from a review board. The plans specify which outcomes the study will measure: for instance, a study might monitor various symptoms to see if any are influenced by the treatment. The researchers then found the published results of these studies and looked for how well these outcomes were reported.

Roughly half of the outcomes never appeared in the scientific journal papers at all. Many of these were statistically insignificant results which were swept under the rug.<sup>[1]</sup> Another large chunk of results were not reported in sufficient detail for scientists to use the results for further meta-analysis.<sup>14</sup>

Other reviews have found similar problems. A review of medical trials found that most studies omit important methodological details, such as [stopping rules](#) and [power calculations](#), with studies in small specialist journals faring worse than those in large general medicine journals.<sup>29</sup>

Medical journals have begun to combat this problem with standards for reporting of results, such as the [CONSORT checklist](#). Authors are required to follow the checklist's requirements before submitting their studies, and editors check to make sure all relevant details are included. The checklist seems to work; studies published in journals which follow the guidelines tend to report more essential detail, although not all of it.<sup>46</sup> Unfortunately the standards are inconsistently applied and studies often slip through with missing details nonetheless.<sup>42</sup> Journal editors will need to make a greater effort to enforce reporting standards.

We see that published papers aren't faring very well. What about *unpublished* studies?

### Footnotes

[1] Why do we always say "swept under the rug"? Whose rug is it? And why don't they use a vacuum cleaner instead of a broom?

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