

How to commit scientific fraud

By ACSH Staff — July 15, 2015



We've written [before](#) [1] on scientific fraud and the problem of how

easy it is to get papers with fake or manipulated data published. These studies that somehow make it through the publishing process can range from relatively harmless, such as the [deliberately faked](#) [2] chocolate is good for weight loss study, or they can have major detrimental effects, like Andrew Wakefield's now-discredited [MMR vaccine/autism paper](#) [3], which essentially sparked the modern anti-vaccination movement. (The journal that published it, *The Lancet*, later retracted the study and Wakefield lost his medical license, but the damage was already done).

An [article](#) [4] at *Discover* blogs titled *The Perfect Scientific Crime?* highlights the relatively simple steps involved in getting fake data published without being caught. The author writes, This post is not my practical advice for fraudsters. Rather, I am trying to suggest fraud-prevention tips.

First and foremost, suspicious data are usually what gets a fraudster caught. Either the numbers themselves are suspicious by being too neat or too good to be true or the method of data collection could not have happened as described. Suspicious data then lead to an investigation.

Also, because publishing a single-author study would attract suspicion, a perfect fraudulent paper would need coauthors. But finding a coauthor to help publish a fake study would likely be a difficult endeavor. By putting their names in a paper, coauthors are sharing responsibility and thus vouching for the validity of the study which makes scientific collaboration on a study a good first step to prevent fraud.

Additionally, requiring authors to publish the raw data alongside the summary results would be another useful prevention method, because it is more difficult to fake raw data than statistical summaries of data.

What this article didn't mention was the loose policies surrounding peer review for example, authors being [allowed to choose](#) [1] who they want to peer review their studies. Stricter checks and balances in peer review need to be more firmly established to catch fraudulent studies before they even get published.

Source URL: <https://www.acsh.org/news/2015/07/15/how-to-commit-scientific-fraud>

Links

[1] <http://acsh.org/2015/07/the-detrimental-effects-of-junk-science/>

[2] <http://io9.com/i-fooled-millions-into-thinking-chocolate-helps-weight-1707251800>

[3] <http://www.cnn.com/2011/HEALTH/01/05/autism.vaccines/>

[4] <http://blogs.discovermagazine.com/neuroskeptic/2015/07/14/the-perfect-scientific-crime/#.VaZyuTt4ouo>