

Description

There is no doubt that there is too much dishonest research being published in academic journals. Do a Google search and you'll find plenty of examples of once [renowned scientific papers](#) that were later shown to contain fabricated data. While we can never completely eliminate such papers, we can reduce their numbers. [Retracting bad papers](#) and punishing perpetrators is an inefficient way to reduce publishing fraud. Prevention is the best way. A multi-pronged approach is required at both the research and the publishing level.

Nip It in the Bud

A typical research team has one or more junior members, graduate students for example, and a senior member such as a professor. Many cases of dishonest research occur because the graduate student presents [fake data](#) to the professor. How to prevent this? The professor needs to become more involved in some of the details of the data collection. For example, he should require his students to show him raw data of important experiments and not just photocopies. If a student suddenly solves a long-standing problem, he deserves acclaim, but his work first demands scrutiny, with probing questions, and perhaps an independent verification by another student. If a professor has a reputation of doing such things, few students will be tempted to try to "pull the wool over his eyes."

My graduate adviser evidently thought he had been victimized by a less than honest student shortly before I joined the group (the older group members definitely thought so). He began politely asking his current students to show him original data—spectra and elemental analyses. We should all do the same.

The Review Process

Scrutiny by the professor will prevent most fraud that originates at a lower level, but what if the researcher does the work himself? Publishing houses must do their part by assigning competent reviewers. The more remarkable the findings are claimed to be, the more careful the scrutiny needs to be. This works against the grain of publishers, of course—they want to publish breakthrough work as fast as possible. But extra scrutiny and longer lag times are the price we pay for less fraud and higher quality publications.

I have been misled on one or two occasions by [erroneous](#) if not outright fabricated papers, and I can testify how much it wastes a researcher's time. If we all do our part to reduce dishonest research, we will safeguard our reputations and save the time of a lot of other researchers.

Category

1. Publishing Research
2. Understanding Ethics

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