



THE EVIDENCE BASE

## Are We Reading Fake Research? The Sting Test

John Hanks, DC

"The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness."<sup>1</sup>

Well, that's a mouthful. But this 2015 quote from Richard Horton, editor-in-chief of *The Lancet*, sums up the problems that have existed in research for some time. Some of it is "sloppy" technique or lazy investigation, and some of it is outright fraud.

In [part 1](#) of this article (May issue), I discussed all this, and also a second issue: "junk" journals that will publish anything submitted to them, usually without real peer review. These journals have grown exponentially because of increased competition among researchers for journal acceptance, grant money and prestigious appointments.



But some honest researchers have been understandably offended by this trend. They have devised "stings" by submitting bizarre and undocumented work for publication to test the integrity of particular marginal or "phony" journals. The purpose of this article is to share some of my favorite "stings" and the stories behind them; and offer a couple of ideas from thoughtful authors on how to manage this fraudulent behavior.

#### The "Sting" Test for Credibility

An early "sting" test was achieved in 1996 by Alan Sokal, a physics professor. He had a paper published in the journal *Social Text* that argued gravity did not exist, and that it was really a "social and linguistic concept."<sup>2</sup> Dr. Sokal seemed to have started something, since the "stings" have continued.

In 2010, Cornell University grad student Phil Davis, editor of the *Scholarly Kitchen* blog, submitted a manuscript consisting of computer-generated nonsense, using an MIT program called SCIgen.<sup>3</sup> Dr. Davis said he was associated with the Center for Research in Applied Phrenology (which is the study of bumps on your head). Yes, his paper was accepted by a "predatory" or phony journal!

The news media was smoking hot when news got out that three professors from Portland State had spent about a year submitting 20 bogus manuscripts to "junk" journals.<sup>4</sup> *The New York Times*, *The Wall Street Journal* and many other outlets covered this story. Some of the manuscripts were rejected, but several were accepted (after an invoice was sent to the authors for "publishing expense").

One of their better hoaxes was to a journal of feminist social work titled, "Our Struggle Is My Struggle," which was just a jumble of scattered, modernized jargon lifted from Hitler's *Mein Kampf*. But in my opinion, the best - and the most reported on - was about their "sting" in a journal

called *Gender, Place, & Culture*.

The manuscript was called, "Human Reactions to Rape Culture ... at Urban Dog Parks in Portland, Oregon." It was a fake study about contrasting "humping" behavior between male and female dogs, and how people reacted to it. The authors, the hoax-makers, told their story in the online journal *Areo*, with the hope it would shame the predatory industry, and stimulate more scrutiny from legitimate journals.

#### A Sting for the Ages

Now comes my favorite "sting," the one from Chad Cook, PhD, PT, who **succeeded** in getting an article published in a new journal, *Archives of Woman's Health and Care*.<sup>5</sup> The article is titled, "Temporal Effect of Repeated Spinal Manipulation on Mortality Ratio: A Case Report." I read it, and it looks like a real study, with graphs, stats, results, conclusions, etc. It describes a person who was brought back to life by spinal manipulation; a person who incidentally, had been dead for five years!

Dr. Cook may have gotten interested in the topic of fabricated research since he teaches at Duke University. Duke, unfortunately, has had three high-profile research **fraud cases** in the past decade. One case in 2015 resulted in the university paying back the U.S. government \$112.5 million to settle accusations it submitted bogus data to win federal research grants.<sup>6</sup>

#### Where Do We Go From Here?

Are these "stings" making a difference in the number of bogus manuscripts and phony journals? In some countries, yes. Poland and India have mounted serious campaigns to eliminate predatory journals.<sup>7</sup> Some writers have suggested "blacklisting" authors who repeatedly submit fraudulent research. Other scientists put more emphasis on true peer-reviewed oversight.

I think John Ioannidis, an eminent professor of medicine at Stanford University, puts it succinctly: "[T]he one core dimension across biomedicine is the ability to replicate."<sup>8</sup> Why repeat what others have already done? It's not sexy research, but replicating original studies may become the most important research of all.

#### References

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JUNE 2020