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The Perils of 'Bite Size' Science



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IN recent years, a trend has emerged in the behavioral sciences toward shorter and more rapidly published journal articles. These articles are often only a third the length of a standard paper, often describe only a single study and tend to include smaller data sets. Shorter formats are promoted by many journals, and limits on article length are stringent — in many cases as low as 2,000 words.

This shift is partly a result of the pressure that academics now feel to generate measurable output. According to the cold calculus of “publish or perish,” in which success is often gauged by counting citations, three short articles can be preferable to a single longer one.

But some researchers contend that the trend toward short articles is also better for science. Such “bite size” science, they argue, encourages results to be communicated faster, written more concisely and read by editors and researchers more easily, leading to a more lively exchange of ideas.

In a 2010 article, the psychologist Nick Haslam demonstrated empirically that, when adjusted for length, short articles are cited more frequently than other articles — that is, page for page, they get more bang for the buck. Professor Haslam concluded that short articles seem “more efficient in generating scientific influence” and suggested that journals might consider adopting short-article formats.

We believe, however, there are a number of serious problems with the short-article format.

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First, we dispute the importance of Professor Haslam's finding that short articles get more bang for the buck. Suppose that you conduct two studies, each offering evidence for the same conclusion, and you can opt to publish them either as one long article or as two short ones. Suppose that the scientists who will cite your studies will cite them in either format, either the long article or the pair of shorter articles. Based on citations, each of the three articles would have the same impact, but on a per-page measure, the shorter articles would be more "influential." **But this would reflect only how we measure impact, not a difference in actual substance or influence.**

Second, we challenge the idea that shorter articles are easier and quicker to read. This is true enough if you consider a single article, but assuming that there is a fixed number of studies carried out, **shorter articles simply mean more articles.** And an increase in articles can create more work for editors, reviewers and, perhaps most important, anyone looking to fully research or understand a topic.

Third, we worry that **shorter, single-study articles can be poor models of science.** **Replication is a cornerstone of the scientific method, and in longer papers that present multiple experiments confirming the same result, replication is manifestly on display; this is not always so with short articles.** (Indeed the shorter format may discourage replication, since once a study is published its finding loses novelty.) Short articles are also more likely to suffer from "citation amnesia": because an author has less space to discuss previous relevant work, he often doesn't do so, which can give the impression that his own finding is more novel than it actually is.

Finally, as [we discuss in detail](#) in this month's issue of the journal Perspectives on Psychological Science, we are troubled by the link between small study size and publication bias. Theoretically, if several small studies on a topic, each with its own small data set, are sent to publishers, the overall published results should be equivalent to the results of a single large study on that topic using a complete data set. But according to several "meta-studies" that have been conducted, this is often not the case: rather than the small studies' converging on the same result as a large study when published, the small studies give a very different result.

The reason is that small studies generate a wide variety of results, and those studies that generate boring results or results contrary to what their authors predicted are either never submitted for publication or rejected. This doesn't mean that the authors or the journal editors are being dishonest; it just means that they look for significant effects and give priority to novelty. **Small studies are inherently unreliable** — larger studies or, better still, multiple studies on the same topic, are more likely to give definitive, accurate results.

The rise of bite-size science is worrisome. We urge that editors demand more replication of unexpected findings and that the importance that the academic community gives to quantity of citations be balanced with a greater awareness of potential publication bias.

Until then, bite-size science will be hard to swallow.

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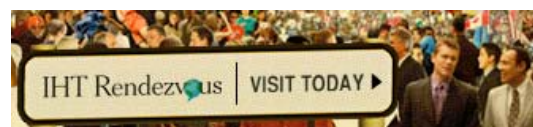
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