

# Open Access to Scientific Papers May Not Guarantee Wide Dissemination

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Millions of research papers and other scholarly material are available on the internet, however, in many cases a person or library must pay to access them. In recent years, as the internet has helped lower the cost of publishing, more and more scientists have begun publishing their research in open source outlets on the internet. Since these publications are free to anyone with an internet connection, the belief has been that more interested readers will find them and potentially cite them. New research from James A. Evans and Jacob Reimer of the University of Chicago suggests that being in an open source publication does not necessarily increase the number of times a research paper is used by other researchers. Credit: Jupiter Images

(PhysOrg.com) -- If you offer something of value to people for free while someone else charges a hefty sum of money for the same type of product, one would logically assume that most people would choose the free option. According to new research in today's edition of the journal

*Science*, if the product in question is access to scholarly papers and research, that logic might just be wrong. These findings provide new insight into the nature of scholarly discourse and the future of the open source publication movement.

Most research is published in scientific journals and reviews, and subscriptions to these outlets have traditionally cost money--in some cases a great deal of money. Publishers must cover the costs of producing peer-reviewed publications and in most cases also try to turn a profit. To access these publications, other scholars and researchers must either be able to afford subscriptions or work at institutions that can provide access.

In recent years, as the Internet has helped lower the cost of publishing, more and more scientists have begun publishing their research in open source outlets online. Since these publications are free to anyone with an Internet connection, the belief has been that more interested readers will find them and potentially cite them. Earlier studies had postulated that being in an open source format could more than double the number of times a journal article is used by other researchers.

To test this theory, James A. Evans, an assistant professor of sociology at the University of Chicago, and Jacob Reimer, a student of neurobiology also at the University of Chicago, analyzed millions of articles available online, including those from open source publications and those that required payment to access.

The results were surprising. On average, when a given publication was made available online after being in print for a year, being published in an open source format increased the use of that article by about 8 percent. When articles are made available online in a commercial format a year after publication, however, usage increases by about 12 percent.

"Across the scientific community," Evans said in an interview, "it turns out that open access does have a positive impact on the attention that's given to the journal articles, but it's a small impact."

Yet Evans and Reimer's research also points to one very positive impact of the open source movement that is sometimes overlooked in the debate about scholarly publications. Researchers in the developing world, where research funding and libraries are not as robust as they are in wealthier countries, were far more likely to read and cite open source articles.

The University of Chicago team concludes that outside the developed world, the open source movement "widens the global circle of those who can participate in science and benefit from it."

So while some scientists and scholars may chose to pay for scientific publications even when free publications are available, their colleagues in other parts of the world may find that going with open source works is the only choice they have.

*View an [interview](#) with James Evans, assistant professor of sociology at the University of Chicago.*

Provided by NSF

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