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Source: Liang, X., Su, L., Yeo, S., *et al.* (2014). Building Buzz: (Scientists) Communicating Science in New Media Environments. *Journalism & Mass Communication Quarterly*, 91(4), pp.772–791. DOI:10.1177/1077699014550092

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Creating 'buzz' for impact: Twitter and new-media science communication

As the media environment changes, the way scientists communicate their work must also evolve. This study explored the effect of public communication on the scientific 'impact' of America's most highly cited nanotechnology researchers. It provides the first evidence that outreach activities, such as speaking to journalists and being mentioned on Twitter, can increase a scientist's impact.

Traditional forms of journalism are in decline, gradually being overshadowed by online media platforms. This change is affecting all forms of communication; science journalism too has shifted from traditional to online platforms.

Alongside changes to the media environment, the increasing number of specialisms within scientific research, the necessity for scientists to communicate beyond the 'ivory tower', and the growing demand for impact value in science means the way scientists communicate their work must change.

Some scientists assume that public communication of their work has little to offer, and may even be harmful to their credibility. For those that do communicate their work, this often involves little more than a press release; only a minority are actively engaged in communicating their work through popular media outlets. So, are many scientists missing out? Could scientists increase their impact by more actively engaging in public communication?

This study investigated these questions using a sample of highly cited US scientists working in nanotechnology. The authors analysed their communication activities in order to determine how different forms of outreach are related to scientific impact.

Authors of the most cited nanotechnology publications indexed in the Web of Science database in 2008 and 2009 were sampled. They were each sent a survey which asked about their interactions with journalists and the public and how often they blogged. Alongside the survey results, cases in which their research was mentioned on Twitter were recorded.

The authors of the study measured the scientific impact of the final sample of 241 scientists using the '*h*-index', an indicator which uses a scientist's most cited papers and the number of citations they have received overall to quantify scientific impact (and which works properly only for comparing scientists in the same field).

The results showed that, while most of the difference in impact could be accounted for by demographics and professional status, public-communication behaviours were also important. For example, scientists who had more interactions with reporters had a greater scientific impact than those with fewer interactions.

Scientists whose research was mentioned on Twitter also had significantly higher *h*-indices than peers whose research was not mentioned. Furthermore, the *h*-indices of scientists who interacted with non-scientists were higher if they were also mentioned on Twitter. In other words, being mentioned on Twitter appears to amplify the effect these interactions have on scientific impact.

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Integrating Environmental Risk Assessment

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Creating 'buzz' for impact: Twitter and new-media science communication *(continued)*

This key finding of this paper — that public communication can contribute to scientific impact in a measurable way — may cause scientists, who have traditionally been reluctant to take part in public communication due to academic demands, to think again.

The finding that online 'buzz' about research — which may come from Twitter activity — enhances the impact of communicating through traditional outlets is also significant. The authors suggest that social media could supplement traditional approaches to measuring the impact of academic work.

Whether scientists decide to engage through new forms of media or not, there is no doubt that these new media are transforming science communication. The boundaries that have traditionally separated scientists, journalists and the public are becoming blurred, and scientists should adapt to this new landscape in order for their work to be understood, and for it ultimately to have meaningful impact for society.