Who's Tweeting about scientific research? And why?

22 September 2020

The lead author of the study, Jedidiah Carlson at the University of Washington, explains that each user in a social network will tend to connect with other users who share similar characteristics (such as occupation, age, race, hobbies, or geographic location), a sociological concept formally known as "network homophily." By tapping into the information embedded in the broader networks of users who tweet about a paper, Carlson and his coauthor, Kelley Harris, are able to describe the total audience of each paper as a composite of multiple interest groups that might indicate the study's potential to produce intellectual breakthroughs as well as social, cultural, economic, or environmental impacts.

Rather than categorizing people into coarse groups such as "scientists" and "non-scientists" that rely on Twitter users to accurately describe themselves in their platform biographies, Carlson was able to accurately segment "scientists" into their specific research disciplines (such as evolutionary biology or bioinformatics), regardless of whether they mentioned these sub-disciplines in their twitter bios.

The broader category of "non-scientists" can be automatically segmented into a multitude of groups, such as mental health advocates, dog lovers, video game developers, vegans, bitcoin investors, journalists, religious groups, and political constituencies. However, Carlson cautions that these indicators of diverse public engagement may not always be in line with scientists' intended goals.

Hundreds of papers were found to have Twitter audiences that were dominated by conspiracy theorists, white nationalists, or science denialists. In extreme cases, these audience sectors comprised more than half of all tweets referencing a given study, starkly illustrating the adage that science does not exist in a cultural or political vacuum.

Particularly in light of the rampant misappropriation and politicization of scientific research throughout
the COVID-19 pandemic, Carlson hopes that the results of his study might motivate scientists to keep a closer watch on the social media pulse surrounding their publications and intervene accordingly to guide their audiences towards productive and well-informed engagement.


Provided by Public Library of Science

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*