

# Vaping draws strong support—from bots

August 6 2018

---



Credit: CC0 Public Domain

Social media accounts run by internet robots may be driving much of the discussion around the health threats posed by e-cigarettes, according to a study led by San Diego State University researchers, who also found most of the automated messages were positive toward vaping.

More than 70 percent of the tweets analyzed in the study appeared to have been put out by robots, also known as bots, whose use to influence public opinion and sell products while posing as real people is coming under increased scrutiny.

The discovery of the apparent bot promotion of vaping was unexpected. The team originally set out to use Twitter data to study the use and perceptions of e-cigarettes in the United States and to understand characteristics of users discussing e-cigarettes.

"Robots are the biggest challenges and problems in [social media](#) analytics," said Ming-Hsiang Tsou, founding director of SDSU's Center for Human Dynamics in the Mobile Age, and co-author on the newly published study. "Since most of them are 'commercial-oriented' or 'political-oriented,' they will skew the analysis results and provide wrong conclusions for the analysis."

The findings come amid announcements by Twitter recently that it would be removing suspicious and fake accounts by the millions and also introduce new mechanisms to identify and fight spam and abuse on its platform, among other measures.

"Some robots can be easily removed based on their content and behaviors," Tsou said. "But some robots look exactly like human beings and can be more difficult to detect. This is a very hot topic now in social media analytics research."

Led by SDSU researcher Lourdes S. Martinez, findings of the study appear in the article, "'Okay, We Get It. You Vape': An Analysis of Geocoded Content, Context, and Sentiment regarding E-Cigarettes on Twitter," published in the July issue of the *Journal of Health Communication*.

Partially funded by the National Science Foundation, the study's two other authors are SDSU alumnae Sharon Hughes, who originated the idea for the project while a student, and Eric R. Walsh-Buhi, an associate professor in School of Public Health.

The study—one of the first known to rely on geocoded tweets to investigate perceptions of e-cigarettes—raises important questions about misinformation regarding public [health](#) issues and potential covert marketing of nicotine-based products.

"We are not talking about accounts made to represent organizations, or a business or a cause. These accounts are made to look like regular people," said Martinez, an assistant professor in SDSU's School of Communication. "This raises the question: To what extent is the public health discourse online being driven by robot accounts?"

For the study, the team compiled a random sample of nearly 194,000 geocoded tweets from across the United States posted between October 2015 and February 2016. A random sample of 973 tweets were analyzed for their sentiment and source (an individual versus an organization, for example). From these, 887 tweets were identified as posted by individuals, a category that includes potential bots.

The team found that more than 66 percent of tweets from individuals carried a supportive tone about the use of e-cigarettes. The team also found that about 59 percent of individuals also shared tweets about how they personally used e-cigarettes.

Also, the team was able to identify adolescent Twitter users, finding that more than 55 percent of their tweets were positive in tone related to e-cigarettes.

In tweets that gave reference to the harmfulness of e-cigarettes, 54

percent asserted e-cigarettes are not harmful or are significantly less harmful than traditional cigarettes.

Martinez said agencies and public health organizations must be far more attuned to conversations happening in the social media domain if they are to be effective in communicating information to the general public.

"The lack of awareness and need to voice a [public health](#) position on e-cigarettes represents a vital opportunity to continue winning gains for tobacco control and prevention efforts through health communication interventions targeting e-cigarettes," the team wrote in the paper.

Martinez said the team did not set out to identify potential robot accounts. After observing anomalies in the dataset, namely related to confusing and illogical posts about e-cigarettes and vaping, the team reviewed user types and decided to reclassify them—specifically identifying accounts that appeared to be operated by robots.

The large presence of robot accounts raises questions of whether other health topics are being driven by these accounts, she said.

"We do not know the source, or if they are being paid by commercial interests," Martinez said. "Are these [robot](#) accounts evading regulations? I do not know the answer to that. But that is something consumers deserve to know, and there are some very clear rules about tobacco marketing and the ways in which it is regulated."

**More information:** Lourdes S. Martinez et al, "Okay, We Get It. You Vape": An Analysis of Geocoded Content, Context, and Sentiment regarding E-Cigarettes on Twitter, *Journal of Health Communication* (2018). [DOI: 10.1080/10810730.2018.1493057](https://doi.org/10.1080/10810730.2018.1493057)

Provided by San Diego State University

Citation: Vaping draws strong support—from bots (2018, August 6) retrieved 17 July 2024 from <https://medicalxpress.com/news/2018-08-vaping-strong-supportfrom-bots.html>

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.