

Study finds US Twitter users have strongly supported face coverings amid the pandemic

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An analysis of Twitter activity between March 1 and Aug. 1, 2020, found strong support by U.S. users for wearing face coverings and that a media focus on anti-mask opinions fueled the rhetoric of those opposed, report University of Oregon researchers.

The study, published April 28 in the journal *PLOS ONE*, initially focused

on linguistics, zeroing in on the language associated with hashtags during the study period, which began a month before the Centers for Disease Control and Prevention recommended mask-wearing to protect against COVID-19 infection.

However, to better understand that semantics, which were found to be polarized, angry and emotionally loaded, the research team had to take an interdisciplinary journey into politics and media, said Zhuo Jing-Schmidt, a professor and linguist in the UO's Department of East Asian Languages and Literatures.

"There was polarization that was strong and at a rhetorical level, but when we looked at the participatory process there was a huge imbalance in the numbers," Jing-Schmidt said. "After breaking down this imbalance, our findings provide a cautious optimism. Most Americans stepped up in support of mask-wearing, even though the media gave us the impression that there was a huge resistance."

The data analyzed consisted of 149,110 Twitter posts involving 35 distinct types of hashtags, 26 of which were associated with mask supporters. Of the total posts, 138,796 users tweeted pro-mask hashtags and 7,771 posted anti-mask hashtags.

Jing-Schmidt's doctoral student Jun Lang and Wesley W. Erickson, who earned a doctorate in physics from the UO in 2020, then applied their interest in [big data](#) to complete multilayer analyses to explore polarizing rhetoric, the pro-mask majority and a possible echo-chamber effect of participants merely engaging with like-minded people.

The analyses also explored [public opinion polls](#) on overall acceptance of wearing face coverings and connected Twitter posts with the headlines of continual mainstream media coverage of anti-mask sentiment, including the common opposing rhetoric of the former president and

other conservative politicians.

The study's findings supported the overall support of wearing [face coverings](#) found in polling by the Pew Research Center.

"We found that there is polarization, but you have to look at it at two different levels," Jing-Schmidt said. "One was the rhetorical, where we saw stark polarization that is angry and shouty. Secondly, we showed that the mask-resisters were a small cluster of users compared to a huge majority of mask supporters."

Media coverage, she said, magnified anti-mask rhetoric. The peak use of polarizing hashtags, the researchers found, was associated with headlines of stories that focused on anti-mask-wearing sentiments.

"We find that the media played a part in the polarization, magnifying the anti-mask rhetoric," she said. "This led us to understand how the anti-mask minority can seem to be so powerful in the public's perception."

That connection, she said, was not unexpected.

"That's the nature of news," she said. "Journalists in a democracy have this responsibility to hold people accountable, and that leads to negative events being covered. We're doing fine, generally, but we must account for these negative cognitive biases amplified by the [media](#) in our political discourse. We are still in the pandemic, so there is no reason to celebrate."

Interestingly, Jing-Schmidt said, it was pro-mask Twitter posters who fitted into an echo chamber. Most pro-maskers ignored the rhetoric of the anti-mask minority, especially disinformation that anti-maskers attempted to spread in their responses to tweets of pro-maskers.

"Our results demonstrate that the digital discourse on Twitter about mask wearing was rhetorically polarized whereby the rallying calls of the mask supporters were amplified by other mask supporters, and the battle cries of the mask resisters resonated with other mask resisters but were drowned out and ignored by a vocal and overwhelming pro-mask majority," her team wrote.

More information: Jun Lang et al, #MaskOn! #MaskOff! Digital polarization of mask-wearing in the United States during COVID-19, *PLOS ONE* (2021). [DOI: 10.1371/journal.pone.0250817](https://doi.org/10.1371/journal.pone.0250817)

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