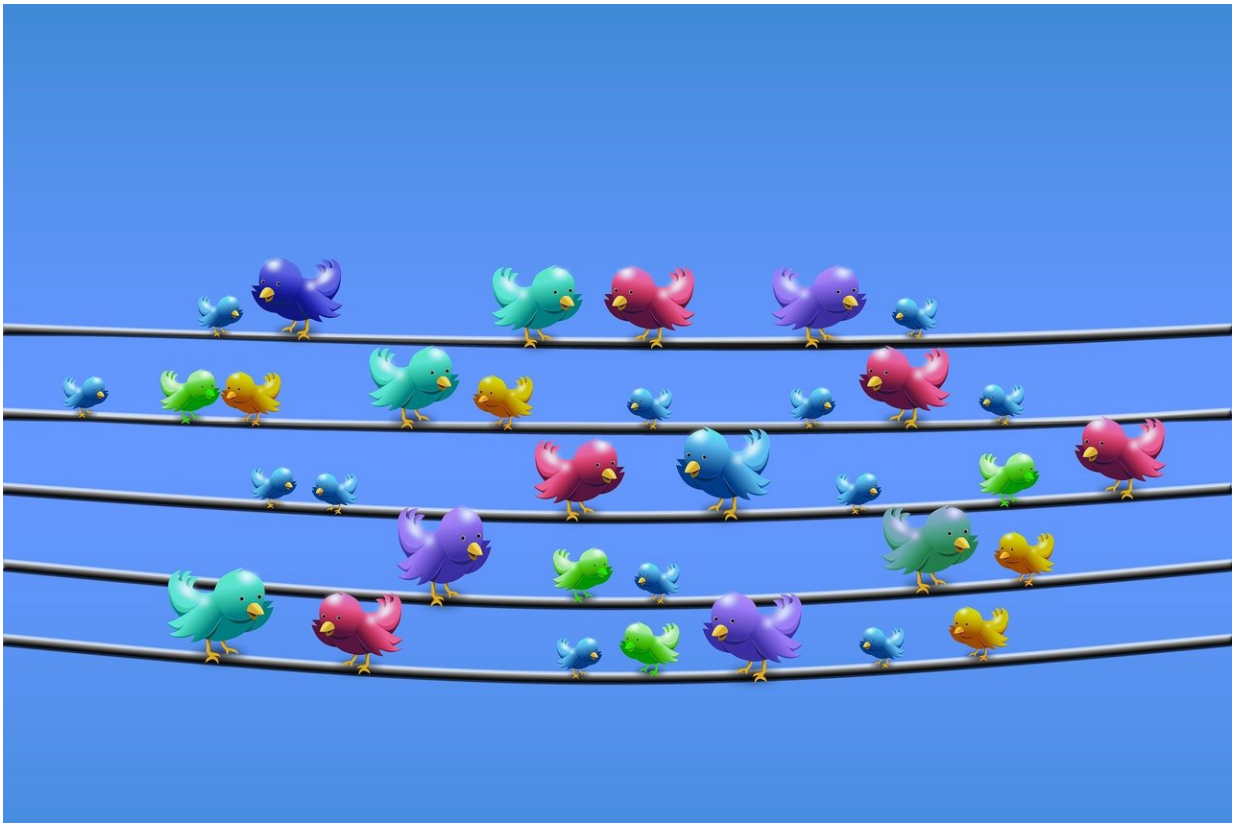


# Essential workers' tweets show surprising positivity during pandemic

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During the COVID-19 pandemic, many people turned to social media platforms to share their feelings about the changes happening in the world around them. Essential workers—such as medical providers, retail

and food service employees, and public transportation workers—tweeted less often than general users about COVID-19 but more about overall mental health issues, according to researchers at the Penn State College of Information Sciences and Technology.

Additionally, while tweets on topics across the board from all users were less positive during the pandemic, essential workers' overall tweets were more positive compared to general users, the researchers found.

The team had set out to explore whether the pandemic had a greater impact on the well-being of essential workers, and if they turned to media to tell about it. Their finding that tweets from essential workers across all topics being more positive than general users highlights a trend that started before the pandemic for essential workers and has remained consistent since.

"You would think that people who are essential workers with a very stressful work-life balance and have a lot of things going on would have more negative things to say," said Johnna Blair, doctoral student in information sciences and technology and lead author on the research paper. "But they actually had a higher [sentiment](#) score than average Twitter users, and that's interesting."

Blair explained that a sentiment score is a calculation made by algorithms that quantify the feeling or tone in a piece of text, on a scale from positive to negative. These algorithms automatically estimate the sentiment of a snippet of text based on the occurrences of its positive and negative words. The researchers used an existing lexicon and rule-based sentiment analysis tool, VADER (Valence Aware Dictionary and Sentiment Reasoner), in their analysis.

In this study of more than 4,000 Twitter accounts between Jan. 1, 2019, and Sept. 30, 2020, posts from essential workers were consistently

higher in sentiment overall than those from general users—both before and during the pandemic.

These surprising results could have a few possible explanations, according to Blair.

"[Hypothetically], the people who are drawn to essential work, like doctors and nurses, may receive a stronger sense of purpose from their jobs or share characteristics that make them more positive people, and they may then project that online," said Blair. "Or, it could be the case that some of these jobs cause them to have a public Twitter account, where they're maybe less inclined to post negative things if there could be job-related consequences."

The researchers plan to investigate these possibilities with more in-depth interviews with essential workers in future work.

While the researchers acknowledge that their initial study does not yet tell the full story of what has been a very complex and challenging time in essential workers' lives, it provides some insights to guide future research.

"If you take a look at COVID-related [mental health issues](#), we need to acknowledge that the essential workers are probably going through the most difficult situations right now," said Saeed Abdullah, assistant professor of information sciences and technology. "We wanted to focus on this niche population who are at the forefront of much of the struggles during COVID-19, and then see what potential issues they're facing and how we can better support them in terms of their mental health and stress."

He added, "I think there are some really interesting potential future directions, both in terms of technology development and also in terms of

better understanding societal issues."

The work was published in the late-breaking work track at the [CHI Conference on Human Factors in Computing Systems](#), in May.

Provided by Pennsylvania State University

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