What's the prevailing opinion on social media? Look at the flocks, says researcher

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A University at Buffalo communication researcher has developed a framework for measuring the slippery concept of social media public opinion.

These collective views on a topic or issue expressed on social media, distinct from the conclusions determined through survey-based public

opinion polling, have never been easy to determine.

But the "murmuration" framework developed and tested by Yini Zhang, Ph.D., an assistant professor of communication in the UB College of Arts and Sciences, and her collaborators addresses challenges like identifying online demographics and factoring for opinion manipulation that are characteristic on these digital battlegrounds of public discourse.

Murmuration identifies meaningful groups of social media actors based on the "who-follows-whom" relationship. The actors attract like-minded followers to form "flocks," which serve as the units of analysis. As opinions form and shift in response to external events, the flocks' unfolding opinions move like the fluid murmuration of airborne starlings.

The framework and the findings from an analysis of social network structure and opinion expression from over 193,000 Twitter accounts, which followed more than 1.3 million other accounts, suggest that flock membership can predict opinion and that the murmuration framework reveals distinct patterns of opinion intensity. The researchers studied Twitter because of the ability to see who is following whom, information that is not publicly accessible on other platforms.

The results further support the echo chamber tendencies prevalent on social media, while adding important nuance to existing knowledge.

"By identifying different flocks and examining the intensity, temporal pattern and content of their expression, we can gain deeper insights far beyond where liberals and conservatives stand on a certain issue," says Zhang, an expert in social media and political communication. "These flocks are segments of the population, defined not by demographic variables of questionable salience, like white women aged 18–29, but by their online connections and response to events.

"As such, we can observe opinion variations within an ideological camp and opinions of people that might not be typically assumed to have an opinion on certain issues. We see the flocks as naturally occurring, responding to things as they happen, in ways that take a conversational element into consideration."

Zhang says it's important not to confuse public opinion, as measured by survey-based polling methods, and social media public opinion.

"Arguably, social media public opinion is twice removed from the general public opinion measured by surveys," say Zhang. "First, not everyone uses social media. Second, among those who do, only a subset of them actually express opinions on social media. They tend to be strongly opinionated and thus more willing to express their views publicly."

Murmuration offers insights that can complement information gathered through survey-based polling. It also moves away from mining social media for text from specific tweets. Murmuration takes full advantage of social media's dynamic aspect. When text is removed from its context, it becomes difficult to accurately determine questions about what led to the discussion, when it began, and how it evolved over time.

"Murmuration can allow for research that makes better use of social media data to study public opinion as a form of social interaction and reveal underlying social dynamics," says Zhang.

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