< Using Twitter To Tap Into The Mood Of The Planet

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Heard on All Things Considered

September 29, 2011 - MELISSA BLOCK, host: From NPR News, this is ALL THINGS CONSIDERED. I'm Melissa Block.

MICHELE NORRIS, host: And I'm Michele Norris.

Right now, armies of marketers, pollsters and social scientists are trying to figure out what Americans think about everything from global warming to Lady Gaga's latest outfit.

Surveys are only so good. It's hard getting a big enough sample to be sure of the results and that's particularly vexing for social scientists, who want a high standard of accuracy.

Well, now they have a new window to the world: Twitter. NPR’s Christopher Joyce reports on recent efforts by researchers to get tweets to do their work for them.

CHRISTOPHER JOYCE: Normally, if social scientists wanted to design an experiment on, say, how people's moods change during the course of a day, they'd recruit some of their students. But statistically, what 50 college kids do really doesn't reflect the American public. Scientists need lots of people to make solid conclusions about human behavior. That's why Scott Golder went to Twitter, where millions and millions of people express themselves daily.

SCOTT GOLDER: This is the stuff of social life, whether you're doing that with diaries from a few hundred years ago, or you're doing it with the tweets of today. You're still looking into the personal lives of regular people, and that is very revealing.

JOYCE: What Golder and his colleagues at Cornell University wanted revealed is, how do people's moods go up and down - positive or negative - through the day and the week? That might then reveal how much, and when, your biorythms or your environment control the way you feel.

They used a common computer program that scans text for key words in tweets that reflect the writer's mood, or, as psychologists call it, affect. Such as...

GOLDER: Aching, afraid, cynical, fear, mad, fury, poor, abandonment...

JOYCE: In a word, negative, As for the positive side...

GOLDER: Things like agree, definitely, fine, outgoing, paradise, pleasing.

JOYCE: And, of course, this being the Twitter generation...

GOLDER: Awesome. Awesome is an awesome word.

JOYCE: Golder is a graduate student in social and computer science. His team spent months scanning tweets by over 2 million people in 84 countries - half a billion tweets. Here's what they found.

GOLDER: We found that there are two peaks in positive affect during the day. One occurs first thing in the morning, and the other occurs late at night.

JOYCE: But, of course, you say, the dip in the middle is when you go to work, Golder says no.

GOLDER: The shape of the rhythm - or when it peaks and when it valleys - is the same on the weekend as during the week.

JOYCE: Golder doesn't know why mornings and evenings tend to be brighter than the rest of the day. A night's sleep could explain the morning bump-up. Biochemicals associated with a person's...
circadian rhythms could also be at work. And certainly, what happens to you during a day would have an effect.

While the results might not be terribly surprising, they point to a new social media wave in academic research. David Lazer is a practitioner of both political and computer science at Northeastern University.

DAVID LAZER: We've really been in flat earth all these years and suddenly, we've discovered there's a third dimension.

JOYCE: Lazer notes that tweets are public, but he adds that academic institutions should be writing up ethics standards for the use of data from social media. And he says scientists should be careful about what they conclude from that data.

LAZER: I mean, these are not scientifically designed instruments to collect data under pristine circumstances. It's often difficult to tell what's causing what.

JOYCE: But Twitter certainly can reveal people's views. Kent Cavender-Bares is an environmental scientist at the University of Minnesota.

KENT CAVENDER-BARES: I see it as a great way to get a pulse of what's going on.

JOYCE: He says you still need people to double-check computerized language scanners. Computers don't recognize sarcasm or some words with more than one meaning, like blizzards.

CAVENDER-BARES: Real quickly, you find out that a lot of people are tweeting about Dairy Queen Blizzards - an ice cream rather than a snowstorm.

JOYCE: The Cornell research appears in the journal Science, Christopher Joyce, NPR News.