Can Tweets Identify Folks at Risk of Bipolar Disorder?

People suffering from bipolar disorder may subconsciously reveal their mental state in tweets.

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Bipolar disorder is characterized by periods of extreme highs and lows, often resulting in extreme behavior that is difficult to predict. But new findings suggest that Twitter may serve as a way to prevent such extreme behavior by spotting the symptoms as they are developing but before they manifest entirely, reports MIT Technology Review.

For the assessment, scientists at the National Tsing Hua University in Taiwan evaluated about 10,000 tweets posted between 2006 and 2016 by more than 400 people who were diagnosed with bipolar disorder. These tweets were then compared to those of a control group of people chosen at random.

Researchers studied posting habits over time and related the activity to an individual's normal sleeping patterns, how frequently someone tweeted (to assess verbosity) and the kinds of words used in each tweet (to gauge sentiment and emotional content).

In addition, the team developed a way to measure the energy of each word. (People with early signs of bipolar disorder are thought to use more high-energy words.)

Scientists noted how participants' Twitter stream shifted over time, especially as individuals reached stages that would trigger a bipolar disorder diagnosis. In addition, researchers trained a machine-learning algorithm to use combinations of these features to determine which folks exhibited early signs of bipolar disorder and which didn't. (Scientists were able to accurately identify more than 90 percent of individuals.)

Findings showed that the tweets of people with bipolar disorder contain ample information about their mental state, which researchers called "subconscious crowdsourcing."

"Our experimental results demonstrate that the proposed models could greatly contribute to the regular assessments of people with bipolar disorder, which is important in the primary care setting," wrote study's authors.

It’s unclear how much data can be gathered through this particular process. But researchers believe these findings could potentially help people with bipolar disorder receive treatment as soon as possible and reduce the likelihood that they will behave in extreme ways that might precipitate negative outcomes.

Click here to learn how a risk calculator could predict bipolar disorder in kids.

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