QUARTZ

Here, doctors = general doctors

A THOUSAND WORDS

Instagram posts can reveal depression better than anything patients tell their doctors

Corinne Purtill | August 08, 2017

Images can say a lot. (Reuters/Brian Snyder)

Our social media posts say more about us than we realize, including when we need help. In a paper published today (Aug. 8) in the journal EPJ Data Science, a pair of researchers found that an algorithm flagging a few key signs in people's Instagram posts may be able to diagnose depression more effectively than doctors.

Chris Danforth of the University of Vermont and Andrew Reece of Harvard University looked at nearly 44,000 Instagram photos posted by 166 study participants, 71 of whom had previously been diagnosed with depression. The research team built a tool that analyzed the posts and identified depression through markers determined in previous research, such as the tendency of depressed people to prefer grayer, darker colors, and to show less evidence of social activity (which the researchers thought might be evidenced by the absence of faces

in posted images).

They found that posts of depressed people both before and after diagnosis tended to have more blue, dark, or gray tones than those of healthy people. As it turned out, depressed people were actually more likely to post photos with faces in them, but when healthy people did post images with faces, there tended to be more people in the photographs. (The authors didn't examine who the images were of, so couldn't say whether this meant depressed people post more selfies.)

Depression also made people less likely to use filters in their posts. And when they did use filters, they were especially likely to chose Inkwell, which turns photos black and white, compared to healthy people. People without depression preferred the Valencia filter, which gives photos a sun-kissed look, far more than depressed people did.

The scientists found that the tool they had designed could accurately identify which participants had depression 70% of the time. A review of studies about doctors' diagnoses of depression found that doctors accurately identified depressed people only 42% of the time.

It's one of several promising experiments using artificial intelligence to diagnose mental health conditions. A company called NeuroLex Diagnostics is working on a series of AI tools that can identify telltale patterns and tics in speech to diagnose problems including depression, schizophrenia, Alzheimer's, and Parkinson's. The app Ginger.io looks for signs of depression and anxiety in smartphone activity, putting users in touch with a therapist when it determines they haven't left the house or spoken to friends in a long time.

Machine assistance could be a welcome development in mental health, a field where problems are underdiagnosed and undertreated. The US suicide rate is at a 30-year high, and an estimated 55% of US counties have no practicing psychologist, psychiatrists, or social workers at all. Being able to spot mental illnesses more easily is the first step to connecting people with the help they need.