Canadian team designs smartphone app to track mental health

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Canadian researchers have developed an app that tracks users' smartphone behavior to monitor mental health.

A research team at Dalhousie University said they wanted to devise a program "that passively captures information on social interactions" to gain insights into the mental health of youths, especially at a time of much social isolation during coronavirus quarantines.

PROSIT—Predicting Risks and Outcomes of Social Interactions—is currently being used by 300 people, half of whom are patients at mental health facilities.

The app tracks data collected by participants' smartphones that provide insights into their communications, physical activities and recreational preferences. Among the 15 types of data collected are call history, pedometer readings, message logs, screen time, music preferences and sleep time.

Researchers emphasize they are not interested in the content of communications, but rather other metrics such as frequency of communication, or, in the case of typed messages, the pressure used for each keystroke.

"When people are emotional, when you're angry, you want to send an emotional text. Not only the speed of your typing changes, but also the force you apply on the keyboard to type also changes," Rita Orji, a Dalhousie computer scientist, said in an interview with the Canadian Broadcasting Corporation.

Psychiatrist Sandra Meier, a psychologist at IWK Health Center in Nova Scotia and at Dalhousie, called the app "fairly amazing."

"We can actually find out whether they're anxious or depressed... You don't have to understand any of the content, you can just listen to people and actually you get their emotional state from the way that they talk," she said.

In addition to data extracted from smartphone logs, researchers ask users to submit weekly oral reports. Participants record 90-second audio clips reviewing their emotions, discussing anxiety and comfort levels, addressing their high and low points of the past week, and then ranking such sentiments on a five-point scale.

The researchers say they have followed strict ethics guidelines in the development of the app and for the handling of personal data they collect. For instance, while phone logs are collected, researchers may not access contents of any calls or messages.

"When we talk about tracking your calls or SMS, we're actually not tracking what you say or who you talk to," computer scientist Orji said. "We're actually just knowing the frequency, how often you call… so most of these are very high-level data that people are really comfortable giving.

Participants must sign consent forms listing all types of data that will be collected from them. The data are encrypted and stored in a secure location at the university.

PROSIT joins a growing number of free and commercial apps addressing mental health needs. Moodfit allows users to track their moods, provides articles and audio clips offering insights into those feelings and gives tips on how to address them. Sanvello offers [cognitive behavioral therapy](#) to improve physical and mental wellbeing, and tackles specific areas of anxiety such as public speaking and test-taking.

And Happify offers science-based games and activities to reduce stress, conquer negative thoughts, boost self-confidence and basically make you happy. Subscriptions begin at $14.99 per month, but users can opt for a plan that gives them access to half of all content for free. Which should make everybody happy.