

Can your iPhone tell if you're depressed?

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Credit: Apple

A new iPhone app developed by University of Illinois at Chicago researchers aims to track and predict mood episodes through keystrokes.

Created by psychiatrist Alex Leow and Peter Nelson, the idea for BiAffect came about when Nelson's 24-year-old son was diagnosed with bipolar disorder, a brain disorder that causes unusual shifts in mood, energy and activity levels.

"Like every family or father, I wanted to try to help him," Nelson said.

He thought that if his son was able to use an app that could track early warning signs, he might be better equipped to seek help.

To find out whether a user might be experiencing a manic or depressive episode, the app tracks typing speed, how hard keys are pressed and the frequency of the use of backspace and spellcheck.

A recent study by Leow and Nelson, who is the dean of the University of Illinois College of Engineering, showed cell phone metadata such as typing speed, spelling errors and using backspace while texting correlate with manic and [depressive episodes](#). People in a manic episode have reduced impulse control, which makes them less likely to take time to accept spell-check recommendations, says Leow. They also tend to talk faster.

"So one hypothesis that we have is if they are talking faster, they should be typing faster," said Leow, an associate professor of psychiatry at UIC.

This might not be the case for everyone. Some might want to speak in person. "Every person is different, and that's what's really fascinating about human behavior," Leow said.

In a depressive episode, people were more likely to type slower.

BiAffect recently won the Robert Wood Johnson Foundation's Mood Challenge, a \$200,000 prize for proposals that further an understanding

of how mood relates to daily lives and well-being. Leow and Nelson will use the funding to make BiAffect available in the App Store later this year. Users interested in downloading it in the future can sign up for updates at www.biaffect.com to find out when it will be available.

BiAffect does not track the content of texting or other keyboard use because of privacy safeguards. But by downloading the app, which allows tracking of keyboard strokes, it monitors texting mechanisms. Leow and Nelson hope that with more downloads, the data can serve as a crowd-sourced study collecting stats on [mood](#) and cognition among many different users.

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