

# Fitbits may help predict depression

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In certain populations, such as those with very stressful work, it is important to know if an individual may have depression. A new study could warn you that a simple Fitbit is depressed, even if people aren't aware that it's depressed.

In this study, conducted by a team at Nanyang Technological University in Singapore, a total of 290 adults (mean age 33 years) were tasked with wearing the Fitbit Charge 2 activity tracking device for 14 consecutive days. I was told to wear it at all times except when taking a bath or charging the battery.

Participants also completed a questionnaire that was widely used to identify people with depression at the beginning and end of the two-week period. The results of these surveys were combined with the data collected by Fitbits and used to train a machine learning-based computer program called the Ycogni model.

Then, using that program to analyze only Fitbit data, we found that it was about 80% accurate in predicting who was most likely to develop depression and who was least likely to develop it.

At-risk individuals were observed to have more fluctuations in heart rate between 2 am and 4 am, and even between 4 am and 6 am (measured by Fitbits). This is consistent with findings from previous studies suggesting that fluctuations in heart rate during sleep may be an effective physiological indicator of depression.

Fitbits further showed that at-risk subjects tended to have greater variability in wake-up and bedtime. Again, it has been previously observed that people suffering from depression are not good at following their daily sleep and awakening routines.

“Our study has shown that sensor data from wearables can be used to help detect the risk of developing depression in an individual,” said Professor Josip Car, who led the study with Assoc. increase. Professor Georgios Cristopros. “By leveraging the growing popularity of our machine learning programs and wearable devices, one day we will be able to use them to screen for timely and prominent depression.”

This study appears in a recently published paper *JMIRmHealth and uHealth*. You need to be careful University of Vermont Studies Previously, we used wearable motion sensors to detect depression in children.

Source: Nanyang Technological University

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