

Pilot study uses brainwave activity to assess depressed mood in healthy people

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Researchers from the University of Tsukuba found that the frequency of a brainwave phenomenon called phase resetting reflects daily changes in depressed mood. This finding renders possible the estimation of the

degree of depressed mood by measuring brain waves for one minute, which is expected to promote the early detection of depression.

Depression is a common but serious mental disorder that requires [early diagnosis](#) and treatment; however, it is currently difficult to do so. Electroencephalogram (EEG) is a test that easily measures [electrical activity](#), and the equipment is relatively inexpensive, such that it may be used to promote the early detection and treatment of [depression](#). However, such a method has not been developed.

The participants of a study, published in *Scientific Reports*, were instructed to measure their EEG for one minute every day at home across two to four weeks to investigate its relationship to the intensity of their depressed mood.

The results demonstrated that the occurrence of phase resetting for many participants, in which [brain waves](#) from different brain regions synchronize, increased with high levels of depressed mood at certain frequencies but decreased at other frequencies.

These results indicate that changes in depressed mood can be objectively measured using EEG for one minute in a resting state and are expected to facilitate the early detection of depression and the development of novel treatment in the future.

More information: Masahiko Morita et al, Brainwave activities reflecting depressed mood: a pilot study, *Scientific Reports* (2023). [DOI: 10.1038/s41598-023-40582-y](https://doi.org/10.1038/s41598-023-40582-y)

Provided by University of Tsukuba

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