

Measuring Depression

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It's hardly surprising that clinically depressed people act differently than healthy people. Quantifying the difference, however, can be difficult. Now a collaboration of physicists and psychiatrists in Japan has found a way to clearly and objectively measure depression.

The researchers outfitted both healthy control subjects and depressed patients with accelerometers to continuously measure their motions over 5-day periods.

Although activity levels in all of the subjects followed power-law patterns (a type of distribution that often turns up in physics studies of natural systems) the activity levels of depressed patients were clearly distinguished from healthy subjects by a number known as the scaling parameter.

For patients with major depression, the scaling parameter is significantly smaller than it is for healthy subjects.

It can be a challenge to spot differences in behavior between depressed and healthy individuals via simple observation, and self-reported depression assessments are often unreliable.

Applying instrumentation and statistical analyses common in physics research could dramatically improve the reliability and accuracy in measurements of depression, and may help in tailoring appropriate treatments for the debilitating ailment.

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