Internet Usage Patterns May Reveal Signs of Depression

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The ways in which college students use the Internet—rather than how long or often they're online—can indicate whether they're suffering from depression, according to a Missouri University of Science and Technology (Missouri S&T) study to be published in IEEE Technology and Society Magazine.

For the study, researchers tested 216 Missouri S&T students for signs of depression, then checked participants' Internet usage information for the month of February 2011.

Scientists found that 30 percent of the students met the diagnostic criteria for depression. This matched the results of previous studies, which indicated that 10 to 40 percent of all American college students suffer from depression.

Specifically, researchers found nine distinct patterns of Internet use associated with depression. These included greater use of file-sharing services and of high-bandwidth applications (such as games and videos) than non-depressed participants, and application usage that demonstrated high "flow duration entropy"—that is, random and inconsistent usage.

According to researchers, it's very likely that students who use the Internet in a random, inconsistent way may have trouble concentrating—a known marker for depression.

But technology might help depressed people, said lead researcher Sriram Chellappan, PhD, an assistant professor of computer science at Missouri S&T in Rolla. This would be possible with software designed to spot patterns that reflect the mental condition.

"The software would be a cost-effective and an in-home tool that could proactively prompt users to seek medical help if their Internet usage patterns indicate possible depression," Chellappan said. "The software could also be installed on campus networks to notify counselors of students whose Internet usage patterns are indicative of depressive behavior."

Chellappan hopes further investigation can reveal similar patterns of Internet usage that could help flag other mental illnesses, such as anorexia, attention deficit disorder, bulimia or schizophrenia. He added that "applications of this study to diagnose and treat mental disorders for other vulnerable groups like the elderly and military veterans are also significant."

Did you know online therapy may help people fighting depression? Click here to read more.

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