

College students' heavy Internet use shares symptoms of addiction

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Young adults who are heavy users of the Internet may also exhibit signs of addiction, say researchers at Missouri University of Science and Technology, Duke University Medical Center and the Duke Institute of Brain Sciences in a new study that compares Internet usage with measures of addiction.

The research, presented Dec. 18 at the IEEE International Conference on Advanced Networks and Telecommunications Systems in Chennai, India, tracked the Internet usage of 69 college [students](#) over two months. It reveals a correlation between certain types of Internet usage and addictive behaviors.

"The findings provide significant new insights into the association between Internet use and [addictive behavior](#)," says Dr. Sriram Chellappan, an assistant professor of computer science at Missouri S&T and the lead researcher in the study, titled "An Empirical Study on Symptoms of Heavier Internet Usage among Young Adults."

At the beginning of the study, the 69 students completed a 20-question survey called the Internet-Related Problem Scale (IRPS). The IRPS measures the level of problem a person is having due to Internet usage, on a scale of 0 to 200. This scale was developed to identify characteristics of addiction, such as introversion, withdrawal, craving, tolerance and negative life consequences. The survey also captures escapism, ratings of loss of control, and reduced time on daily activities.

The researchers simultaneously tracked the campus Internet usage of participating students over two months. After agreeing to participate in the study, the students were assigned pseudonyms to prevent the researchers from linking specific students' identities with their Internet usage data.

Previous studies have shown the IRPS is a validated scale, but no prior study has simultaneously administered the scale while monitoring real-time Internet usage continuously over a period of time.

Working with Chellappan is Dr. P. Murali Doraiswamy, a professor of psychiatry and behavioral sciences at Duke University Medical Center.

Chellappan, Doraiswamy and their colleagues found that the range of IRPS scores among participating students over the two-month period ranged from 30 to 134 on the 200-point scale. The average score was 75. Participants' total Internet usage ranged from 140 megabytes to 51 gigabytes, with an average of 7 gigabytes. The subjects' Internet usage was divided into several categories, including gaming, chatting, file downloading, email, browsing and social networking (Facebook and Twitter). The total IRPS scores exhibited the highest correlations with gaming, chatting and browsing, and the lowest with email and social networking.

The researchers also observed that specific symptoms measured by the scale correlated with specific categories of Internet usage. They found that introversion was closely tied to gaming and chatting; craving to gaming, chatting and file downloading; and loss of control to gaming.

Students who scored high on the introversion scale spent 25 percent more time on instant messaging than those who scored low on the scale. Students who reported increased craving on the IRPS downloaded 60 percent more content than those who scored low. Not surprisingly,

students who scored high on the IRPS scale spent about 10 percent of their Internet time on gaming, compared to 5 percent for the group that scored low.

"About 5 to 10 percent of all Internet users appear to show web dependency, and brain imaging studies show that compulsive Internet use may induce changes in some brain reward pathways that are similar to that seen in drug addiction," says Doraiswamy. He notes that the findings are particularly relevant, as the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has identified Internet Gaming Disorder as a condition that warrants more study.

"We tend to take drug-related addictions more seriously than if someone were using the Internet as a drug," says Doraiswamy. "The negative consequences of the Internet may be quite underappreciated."

According to the researchers, the demand for professional help for a "digital detox" is on the rise, but there is little data to guide diagnosis or care. They believe that results from this study and others may shed light on the tremendous potential of the Internet to affect our behavioral and emotional wellness, and the need to establish criteria for normal versus problematic usage in different age groups.

The team cautioned that the current study is exploratory and does not establish a cause and effect relationship between Internet usage and addictive behavior. They add that most of the students scored a little lower than the mid-point of the scale. Furthermore, students exhibiting problematic Internet usage may also suffer from other mental disorders, a fact that was not examined in this study.

More information: Read the study:
news.mst.edu/files/2013/12/ants_malott_oct28.pdf

Provided by Missouri University of Science and Technology

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