

Scientists find link between digital media use and depression in Chinese adolescents

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Adolescents in China who either spend more time on screen activities, such as watching TV or surfing the Web, or less time on non-screen activities, including physical activity, are at risk and significantly more likely to experience depression, according to a new study in the journal *Heliyon*. A greater association with depression in girls over boys was also found as the use of new digital media grows across the country.

In the United States, the Internet has become an integral part of life with [social media](#) representing a sizable portion of that usage. More than two billion people globally used digital media in 2016, and this is predicted to rise to nearly three billion by 2020. The number of digital media users in China has also been increasing rapidly. Earlier studies have reported that conduct problems, depressive symptoms, and suicide in nearly all developed countries have escalated since the Second World War.

"Digital media, as compared to more [traditional media](#) such as television, have profoundly changed the modern life of the average Chinese

citizen," explained lead investigator Jie Zhang, Ph.D., Central University of Finance and Economics, Beijing, China, and State University of New York Buffalo State, Buffalo, NY, USA. "They can now shop, navigate to travel, browse information, consume various entertainment media, and communicate with one another in an unprecedented manner, and adolescents also spend more and more time using digital media.

"However, access to these digital media may have detrimental outcomes, such as distraction from work or school, the spread of false information about individuals, online bullying, and reduced face-to-face social interactions, all of which can lead to anxiety, depression, and suicidality."

In China, adolescents are facing serious psychological difficulties. Recent evidence shows that the prevalence of depressive symptoms among Chinese students ranges from 11.7 percent to 22.9 percent, representing a significant public health concern, given the established link between depression and suicide in China.

Investigators designed a cross-sectional study to evaluate the association between new digital media and depressive symptoms in a representative Chinese adolescent sample. They surveyed more than 16,000 Chinese adolescents 12-to-18-years of age using data from the 2013-2014 China Education Panel Survey (CEPS). The first goal was to investigate factors that might impact depression, specifically comparing traditional screen time (watching TV); digital media screen time (online); non-screen time (sports, exercise, reading, and cultural activities); and experiencing depressive symptoms among adolescents. The study also examined the potential influence of gender, grade level in school, hometown, number of children in the family, and socioeconomic status on depressive symptoms. The second goal was to compare associations across different economic groups.

The researchers found that greater media consumption screen time is related to depression among Chinese adolescents, although online screen time is a stronger predictor. The present study also showed that digital media had a greater impact on depression among girls, which is consistent with evidence of greater depression and suicide among women compared to men in China.

The less economically developed western area of China showed the strongest link between digital media and depression, although this association was still significant in all economic regions. The influence of traditional screen time was more inconsistent within the group studied, with TV time predicting depression only in the eastern area and lax parental TV control buffering depression only in the eastern and western areas. Further, the present study highlights that non-screen time can decrease depression, although the exact nature and strength of this relationship varies across economic regions.

"The new digital media, if not appropriately managed, creates public health hazards in adolescents," commented Dr. Zhang. "There are numerous and significant differences in economy, culture, and education between China and western countries, as well as clear differences in [adolescent depression](#) and suicide behavior. Therefore, it may not be appropriate to make inferences about how digital [media](#) impacts negative outcomes among Chinese adolescents from findings that utilize samples from western countries.

"However, our study can be used to warn Chinese adolescents to reduce the time they devote to [digital media](#) and advise them to spend more time on non-screen activities, such as outdoor activities and face to face communication. We hope these results will help reduce [depressive symptoms](#) among Chinese adolescents."

More information: Digital Media and Depressive Symptoms among Chinese Adolescents: A Cross-Sectional Study,
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