

# Screen time before bed linked with less sleep, higher BMIs in kids

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It may be tempting to let your kids stay up late playing games on their smartphones, but using digital devices before bed may contribute to sleep and nutrition problems in children, according to Penn State College of Medicine researchers.

After surveying parents about their kids' technology and [sleep habits](#), researchers found that using technology before bed was associated with less sleep, poorer sleep quality, more fatigue in the morning and—in the children that watched TV or used their cell phones before bed—higher body mass indexes (BMI).

Caitlyn Fuller, medical student, said the results—published in the journal *Global Pediatric Health*—may suggest a vicious cycle of technology use, [poor sleep](#) and rising BMIs.

"We saw technology before bed being associated with less sleep and higher BMIs," Fuller said. "We also saw this technology use being associated with more fatigue in the morning, which circling back, is another risk factor for higher BMIs. So we're seeing a loop pattern forming."

Previous research has found associations between more technology use and less sleep, more inattention, and higher BMIs in adolescents. But even though research shows that 40 percent of children have cell phones by fifth grade, the researchers said not as much was known about the effects of technology on a younger population.

Fuller said that because sleep is so critical to a child's development, she was interested in learning more about the connection between [screen time](#) right before bed and how well those children slept, as well as how it affected other aspects of their health.

The researchers asked the parents of 234 children between the ages of 8 and 17 years about their kids' sleep and technology habits. The parents provided information about their children's technology habits, [sleep patterns](#), nutrition and activity. The researchers also asked the parents to further specify whether their children were using cell phones, computers, video games or television during their technology time.

After analyzing the data, the researchers found several adverse effects associated with using different technologies right before bed.

"We found an association between higher BMIs and an increase in technology use, and also that children who reported more technology use at bedtime were associated with less sleep at night," Fuller said. "These children were also more likely to be tired in the morning, which is also a risk factor for higher BMIs."

Children who reported watching TV or playing video games before bed got an average of 30 minutes less sleep than those who did not, while kids who used their phone or a computer before bed averaged an hour less of sleep than those who did not.

There was also an association between using all four types of technology before bed and increased [cell phone](#) use at night, such as waking up to text someone, with watching TV resulting in the highest odds.

Fuller said the results support new recommendations from the American Academy of Pediatrics (AAP) about screen time for [children](#). The AAP recommends that parents create boundaries around technology use, such as requiring their kids to put away their devices during meal times and keeping phones out of bedrooms at night.

Dr. Marsha Novick, associate professor of pediatrics and family and community medicine, said that while more research is needed to determine whether multiple devices at bedtime results in worse [sleep](#) than just one device, the study can help pediatricians talk to parents about the use of technology.

"Although there are many benefits to using technology, pediatricians may want to counsel [parents](#) about limiting [technology](#) for their kids, particularly at bedtime, to promote healthy childhood development and mental health," Novick said.

Provided by Pennsylvania State University

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