

## **TV Viewing, Video Game Play Contribute to Kids' Attention Problems**

Parents looking to get their kid's attention -- or keeping them focused at home and in the classroom -- should try to limit their television viewing and video game play. That's because a new study led by three Iowa State University psychologists has found that both viewing television and playing video games are associated with increased attention problems in youths.

The research, which included both elementary school-age and college-age participants, found that children who exceeded the two hours per day of screen time recommended by the American Academy of Pediatrics were 1.5 to 2 times more likely to be above average in attention problems.

"There isn't an exact number of hours when screen time contributes to attention problems, but the AAP recommendation of no more than two hours a day provides a good reference point," said Edward Swing, an Iowa State psychology doctoral candidate and lead researcher in the study. "Most children are way above that. In our sample, children's total average time with television and video games is 4.26 hours per day, which is actually low compared to the national average."

Collaborating with Swing on the research were ISU's Douglas Gentile, an associate professor of psychology and Craig Anderson, a Distinguished Professor of psychology; and David Walsh, a Minneapolis psychologist. Their study will be published in the August print issue of *Pediatrics* -- the journal of the American Academy of Pediatrics -- available online on Monday, July 5.

### **Studies on elementary, college-aged youths**

The researchers assessed 1,323 children in third, fourth and fifth grades over 13 months, using reports from the parents and children about their video game and television habits, as well as teacher reports of attention problems. Another group of 210 college students provided self-reports of television habits, video game exposure and attention problems. Previous research had associated television viewing with attention problems in children. The new study also found similar effects from the amount of time spent with video games.

"It is still not clear why screen media may increase attention problems, but many researchers speculate that it may be due to rapid-pacing, or the natural attention grabbing aspects that television and video games use," Swing said.

Gentile reports that the pace of television programming has been quickened by "the MTV effect."

"When MTV came on, it started showing music videos that had very quick edits -- cuts once every second or two," Gentile said. "Consequently, the pacing of other television and films sped up too, with much quicker edits."

He says that quicker pace may have some brain-changing effects when it comes to attention span.

"Brain science demonstrates that the brain becomes what the brain does," Gentile said. "If we train the brain to require constant stimulation and constant flickering lights, changes in sound and camera angle, or immediate feedback, such as video games can provide, then when the child lands in the classroom where the teacher doesn't have a million-dollar-per-episode budget, it may be hard to get children to sustain their attention."

The study showed that the effect was similar in magnitude between video games and TV viewing.

### **TV, video games may contribute to ADHD**

Based on the study's findings, Swing and Gentile conclude that TV and video game viewing may be one contributing factor for attention deficit hyperactivity disorder (ADHD) in children.

"ADHD is a medical condition, but it's a brain condition," Gentile said. "We know that the brain adapts and changes based on the environmental stimuli to which it is exposed repeatedly. Therefore, it is not unreasonable to believe that environmental stimuli can increase the risk for a medical condition like ADHD in the same way that environmental stimuli, like cigarettes, can increase the risk for cancer."

"Although we did not specifically study the medical condition of ADHD in these studies, we did focus on the kinds of attention problems that are experienced by students with ADHD," added Swing. "We were surprised, for example, that attention problems in the classroom would increase in just one year for those children with the highest screen time."

Swing points out that the associations between attention problems and TV and video game exposure are significant, but small.

"It is important to note that television or video game time cannot solely explain the development of attention problems," he said. "Clearly other factors are involved."

The researchers plan to continue studying the effects of screen time on attention. They also hope future research can identify what aspects of television or video games may be most relevant to attention problems.

1. E. L. Swing, D. A. Gentile, C. A. Anderson, D. A. Walsh. **Television and Video Game Exposure and the Development of Attention Problems.** *Pediatrics*, 2010; DOI:
2. Iowa State University (2010, July 7). TV viewing, video game play contribute to kids' attention problems, study finds. ScienceDaily. Retrieved January 2, 2014, from <http://www.sciencedaily.com/releases/2010/07/100706161759.htm>

The full article is available on the American Academy of Pediatrics website

You can access a pdf: <http://pediatrics.aappublications.org/content/126/2/214.full.pdf+html>