**Watching SpongeBob Squarepants Makes Preschoolers Slower Thinkers, Study Finds**

By COURTNEY HUTCHISONABC NEWS MEDICAL UNIT Sept. 12, 2011

He may be one of the longest-running, best-loved cartoons in Nickelodeon history, but SpongeBob SquarePants is getting no love from child psychologists.

According to research published Monday in the journal Pediatrics, watching fast-paced cartoons like SpongeBob, even for just a few minutes, hinders abstract thinking, short-term memory and impulse control in preschoolers.

Led by University of Virginia psychologist Angeline Lillard, researchers randomly assigned 60 four-year-olds to three activities: drawing freely with markers for nine minutes; watching a slower-paced, PBS cartoon for that time; or watching SpongeBob SquarePants. Researchers chose SpongeBob for its frenetic pace: The show switches scenes on average every 11 seconds, as compared with the PBS [cartoon,](http://abcnews.go.com/Health/w_DietAndFitness/childrens-nagging-leads-mothers-buying-unhealthy-foods/story?id=14317771) which switched only twice a minute.

Afterward the preschoolers were asked to do four different "executive function" tasks that test cognitive capability and impulse control, such as counting backwards, [solving puzzles](http://abcnews.go.com/Entertainment/story?id=2396960&page=1), and delaying gratification by waiting to eat a tasty snack until told to do so. Compared with those who were drawing and those watching PBS, the SpongeBob kids performed significantly worse on the tasks.

Study authors note that it's hard to say what it was about the adventures of this friendly kitchen sponge that seemed to have such an [immediate negative effect on kids](http://abcnews.go.com/Health/video?id=2327377), but they suspected it was the fantastical events and rapid pacing of the show. By contrast, the PBS show was slower and exhibited real life events about a preschool-age boy.

Parents and pediatricians have often commented that the frenzied pace of [many kids' cartoons today](http://abcnews.go.com/WNT/video/conversation-kharabeesh-cartoons-13265449) make kids distracted and kill their attention spans.

"This is something we have known for quite some time, but this is elegant research that puts science behind what we think," says Dr. David Rosenberg, chief of child psychiatry and psychology at Wayne State University.

The blame shouldn't fall exclusively on the square shoulders of his kindly sea sponge. All fast-paced, fantastical kids' shows are called into question.

Nickleodeon, the makers of SpongeBob, defended the cartoon, pointing out that the study looked only at white middle- to upper-class kids. The study subjects were also only four, two years younger than the target SpongeBob audience.

"Having 60 non-diverse kids, who are not part of the show's targeted demo, watch nine minutes of programming is questionable methodology. It could not possibly provide the basis for any valid findings that parents could trust," David Bittler, a representative for Nickleodeon, told ABC News.

**A Multimedia Childhood**

In a world where the average kid is plugged into some kind of media, be it the internet, smart phone, video games or TV for up to eight hours a day, the negative impact of all this media multitasking on young brains has become a hot topic for debate.

Many pediatricians and psychologists fear that the rapid oscillating between different stimuli will make kids unable to focus, especially when they start juggling listening to music, playing a video game and texting on their cellphone at the tender age of five.

"From what we know about children's neurodevelopment, the early years are truly formative. The concern is that TV is unnatural; it happens at a speed that's unachievable in the real world. Our brains didn't evolve to process things that happen at this surreal speed, so it becomes exhausting to kids' brains," says Dr. Dimitri Christakis, director of the center for Child Health, Behavior and Development at Seattle Children's Hospital. Christakis wrote a commentary on the study, also published on Monday.

Those on the other side of the debate argue that all this multi-tasking is preparing kids for the internet-driven world they will inherit, teaching them how to inherently juggle media in the way that many in the working world today have had to train themselves to do.

**Too Plugged In?**

While multitasking has its benefits, this study and others are offering evidence that these short attention spans are hindering children more than they help them.

"There's no question that there's a downside to having deficits in executive function, these are skills everyone should have," says Christakis.

"The interesting thing was that the deficits were seen with one type of programming and not the other. It's not that all television rots the brain and makes kids stupid," he says.

In a world where limiting kids' access to media is a constant battle, "the good news is that it seems only certain kinds of programming is detrimental. For those parents focusing on the quantity of TV watching only, they need to know that it's not always about turning off the TV, it's about changing the channel."

Putting reasonable limitations on hours spent watching TV is of course also important, notes Rosenberg. Parents need to "closely supervise" their child's TV habits and "look for other opportunities to 'exercise kids synapses'," with engaging activities like reading, playing outside and engaging with others.