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Television

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Running Head: TELEVISION

Television

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The television earned the nickname “boob tube” in some of its earliest days of widespread use. The chair of the Federal Communication Commission (FCC) famously called television a “vast wasteland” in 1961. The “boob tube” term was even mentioned in a 1965 episode of *The Munster’s*. The association of television with low levels of cognitive reasoning has been around almost as long as the device itself.

Background

In the past 50 years substantial research has helped us better understand how the television has impacted our mental functions and specifically the cognitive development of children. In 1988 a Department of Education report, that analyzed all research at the time on the cognitive impact of cartoons, did not find clear evidence to suggest children’s television viewing effected cognitive functions (Anderson & Collins, 1988). In fact, there is some evidence that programs such as *Sesame Street* actually have a positive impact on things like vocabulary development (Rice, Huston, Truglio, & Wright, 1990).

Delving further into the question of how television impacts children cognitively indicates that the real questions center on issues of content. Some programs, such as the aforementioned *Sesame Street*, have been positivity associated with cognitive development. While others, specifically, fast-paced cartoons, have negative associations.

Impact on Executive Functions

In one study published in *Pediatrics* (Lillard & Peterson, 2011), researchers found fast-paced cartoons had a negative impact on children's executive functions. In short, the study had some kids watch a fast passed cartoon (Sponge Bob) and others watch a slower paced one (Caillou), the kids who watched the fast passed cartoon did much worse on several executive function tasks. The study was quite interesting; researchers randomly split 60 4-year-old kids into three groups. For 9 minutes one group watched *Sponge Bob Square Pants* (fast paced/changing cartoon), the second group watched *Caillou* (slower paced/changing cartoon), and the third group drew with crayons and markers.

Immediately following each activity all the kids were assessed with four different mental capacity tasks. For example, one task was a kind of a reverse Simon Says were kids were instructed to touch their toes when the leader said to touch their head, and to touch their head when they were told to touch their toes. Kids then played the game and researchers observed how well they followed the rules. These researches used the results of this activity, as well as several others, to measure the children's executive functions. Executive functions are mental abilities skills that include: attention, working memory, problem solving, self-regulation and other cognitive functions (for more information on executive functions and their measurement see the October 2005 special issue of *Developmental Neuropsychology*).

You might not be surprised to learn that children who watched the fast paced cartoon performed significantly worse on the executive function tasks than the other two groups. However, it is also important to point out that there was no

difference in executive function between that kids who watched the slow paced cartoon and the ones who drew pictures. So, maybe the 'boob tube' itself it not to blame, rather the content on television it what may need to be scrutinized. Or perhaps, the kids watching Sponge Bob were laughing and smiling too much, and that was the real culprit.

The authors suggested that children's executive functions were compromised because of Sponge Bob was more mentally tasking than Caillou. However, the results of the cartoon study could also be explained by cognitive ease (also referred to as fluency in psychology literature). Cognitive ease is a comfortable mental state that lends to trusting ones intuition and not engaging in deep thought. In one experiment people who held a pencil in their mouth performed much worse on a cognitive task because holding a pencil in ones mouth makes you smile. When you smile you are primed for a state of cognitive ease. When you frown or furrow your brow you are primed for a state of cognitive strain and you will be more likely to think analytically (Kahneman, 2011). Regardless of if children are mentally taxed or seduced into a state of cognitive ease, the result of the Sponge Bob study clearly indicated that student's executive function skills are diminished immediately after watching a fast-paced cartoon.

Additional Concerns

When these findings are combined with existing longitudinal studies the picture gets even bleaker. One of the most often studied cognitive aspects of television viewing how it impacts attention and a growing body of evidence to support the connection between attention problems and television viewing of

children. (Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004; Landhuis, Poulton, Welch, & Hancox, 2007; Levine & Waite, 2000). In case of children under 2 years of age the American Academy of Pediatrics discourages television use entirely. They believe there are potentially negative health and developmental effect and that there is a lack of evidence to support educational benefits (Council on Communication and Media, 2011).

Content is King

Before we completely write off the TV as a cognitive wasteland allow me to return to my earlier point about television content. While some programing may have negative impacts on children, others can have a much more positive effect. In the case of the Sponge Bob experiment, the children that watched Caillou did not suffer the same loss of executive functions. As previously mentioned Sesame Street, which is perhaps the most research children's program in history, has been consistently associated with increased reading and learning skills. Kids who watched Sesame Street have done better academically in school all the way into high school. These results are after researches accounted for things like parent's education, gender, and birth order (Huston, Anderson, Wright, Linebarger, & Schmitt, 2001).

Conclusion

It is clear that television can have a profound impact on the cognitive function and development of children both in a positive and negative fashion. It is important for parents and teachers to understand how influential these different forms of media can be. Advice to parents and teachers would not be to aggressively

eliminate fast-paced cartoons. Much like ice cream, fast-paced media can be an enjoyable treat. However, incorporating ice cream into a child's daily diet can be harmful and so can a consistent and excessive stream of manic, under water cartoon characters.

Further Reading

Christakis, Dimitri A., Zimmerman, Frederick J., DiGiuseppe, David L., & McCarty, Carolyn A. (2004). Early Television Exposure and Subsequent Attentional Problems in Children. *Pediatrics*, 113(4), 708-713.

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Lillard, Angeline S., & Peterson, Jennifer. (2011). The Immediate Impact of Different Types of Television on Young Children's Executive Function. *Pediatrics*. doi: 10.1542/peds.2010-1919

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