PRESCRIPTIONS FOR PARENTS -

MAKING SCIENTIFIC RESEARCH PRACTICAL FOR FAMILIES

VIDEO GAMES -

What do we know?

Do you remember your childhood? Did you play board games with your siblings, friends, or parents? Did you invent games to play outdoors? Did you entertain yourself on a long car ride by playing "I spy" or reading a book? Before the "electronic age" children's activities allowed their brains to develop problem solving skills, promoted creativity, and encouraged children to explore nature.

Unfortunately, most children are now spending a significant amount of time in front of a screen, and even toddlers are proficient at scrolling through a smart phone to find photos or games. Research continues to document the detrimental effects of "screen time" on children and adolescents - and this newsletter will focus specifically on video games.

GENERAL INFORMATION

Video games were first developed in the 1970s and early games were simple and considered fairly harmless.

Video gaming is now a multi-billion dollar industry that brings in more money that movies and DVDs. Some video games, through internet connections, allow players to compete with players around the world.

Children spend approximately 40 hours per week on "screen time", and in one survey of US teens, 99% of boys and 94% of girls played video games.

There is some research that shows educational video games may promote learning and problem solving, while some may enchance the development of fine motor skills and coordination.

However, most video games contain negative themes, foul language, sexual exploitation and violence, as well as criminal behavior. In one study, 89% of video games had some violent content.

32% of teens state that at least one of their favorite games is rated M for Mature or AO for Adults Only. 79% of M and AO rated game players are boys; 21% are girls. 12 - 14 year olds are just as likely to play violent

AGGRESSION

Behavior

Studies are showing that playing violent video games (even for just 15 - 30 minutes) causes players to behave more aggressively. One study evaluated boys who played violent video games while other boys just watched the games being played. The boys who actually played the video games demonstrated more aggression after play.

Polman H, Castro B, et al. Experimental Study of the Differential Effects of Playing versus Watching Violent Video Games on Children's Aggressive Behavior. Aggressive Behav, 2008; 34:256-262.

ELEMENTARY AGE

Academic / Educational

Playing video games displaces other activities, such as reading and doing homework. One study by the Kaiser Family Foundation found that children who earned lower academic grades were more likely to spend one hour a day exposed to media.

Epilepsy - seizures

Several studies now show that some children are susceptible to the visual stimulation of video games and develop seizures - either generalized tonic-clonic seizures or complex partial seizures. *Graf WD, et al. "Video Game-Related Seizures" Pediatrics. 1994; 93:551-556.*

ADOLESCENTS

Aggression

One study found that teens who played violent video games for prolonged periods of time were not only more likely to be aggressive, but were also more likely to have confrontations with their teachers and engage in fights with their peers. There was also a decline in their academic scores. *Gentile DA, Lynch P, et al. "The effects of violent video game habits on adolescent hostilty, aggressive behaviors and school performance" J of Adolescence 2004; 27:5-22.*

PARENTAL SUPERVISION NEEDED

Parents need information.

In several studies adolescents acknowledge that their parents do NOT impose a time limit on the amount of time spent playing video games. Parents were also unaware of the content of the video games being played.

Parents need to take action

1. DELAY the use of video games as long as possible. Do not hand your smart phone to your toddler to entertain her.

2. TALK with your children and teens. Discuss the adverse effects of video game use and problem solve together as to how everyone in the family can decrease screen time.

video games as older teens.

http://www.pewinternet.org/2008/09/16/teens-video-games-and-civics/

There is concern that video games are becoming more violent and even games aimed for younger children often include crude humor and violence, according to the Entertainment Software Review Board.

DEFINITIONS

Violence in video games can be categorized as fantasy violence (using cartoon-like characters) or human violence (using human-like characters). These games can be either third person shooter games in which the player controls a character on the screen or first person shooter games when the player views the game as if he/she were the character performing the violence.

RESEARCH INFORMATION

There is much research documenting the adverse effects of television viewing on children and adolescents - especially violent programming.

Most psychologists acknowledge that playing video games is more dangerous than viewing television for 3 reasons:

1. **Playing video games is an active process rather than passive viewing.** Play incorporates principles of learning:
a. Identification
b. Practice and repetition
c. Reward and reinforcement

2. **Players of video games are more likely to identify with a violent character**, particularly in first person shooting games in which players have the same perspective as the killer.

3. **Violent games reward violent behavior** - allowing the player to accumulate points or advance to a higher level.

It is also possible the video game players are desensitized to violence, so that the initial emotional response to killing another character begins to seem more normal after repeated experience.

"Children are especially at risk for experiencing the long-term psychological effects produced through exposure to violent video games."
(Whitaker JL and Bushman BJ. "A Review of the Effects of Violent Video Games on Children and Adolescents" Washington and Lee Law Review 2009; 66:1034-1051.)

Understanding that it is difficult to prove that video games causes specific behaviors in children, the number of studies (over 1000) that show negative effects is accumulating and comes from studies with many different research methodologies.

Thoughts

Playing violent video games may also increase aggressive thoughts so that the child interprets his world in a more hostile way.

In addition, in one study, children who played video games were less likely to help others - had less pro-social behavior.

Physiology

Playing violent video games actually causes numerous physiological changes in the body and brain. Both heart rate and blood pressure usually increase during video game play, especially in those who are playing violent games.

Reward Center

The pleasure center of the brain that involves reward and motivation is affected, and dopamine is released. This is the mechanism in the brain by which addiction happens, so it is no surprise that some individuals do become addicted to playing video games.

Self-control

Unfortunately, while the pleasure / reward center of the brain is stimulated during video game play, the front lobe of the brain that is involved with self-control, inhibition and attention is less active.

Moral Development
In one study from Canada, playing video games makes it more difficult for teens to tell right from wrong.
http://www.teachingtimes.com/articles/violent-video-games-report-summary.htm

Empathy
In that same study, the researchers found that teens were less able to view the world from the perspective of others and struggled in the development of empathy.

A confirmatory study was just released from UCLA in which 6th graders were studied before and after spending 5 days without any screen time while at a nature camp. After just five days without screen time, the teens were more able to correctly identify the emotions of others seen in pictures or videos.
http://www.dailymail.co.uk/sciencetech/article-2732028/Do-smartphones-make-kids-socially-awkward-Less-human-interaction-causing-tweens-emotionally-stunted.html

BOYS
Because of how their brains are wired, boys are more likely than girls to become addicted to video games. Boys learn by repetition and competition - both of which are an important component of video games. In addition the reward systems of the immature brain contain more testosterone receptors.

3. KNOW the rating system of video games - and use it - but don't rely on it. The ESRB (Entertainment Software Rating Board) looks at many factors when rating games, and does consider the amount of violence, sex, controversial language and substance abuse - but there is violence even in video games rated "E" for everyone.

4. DO NOT allow video game equipement / computers / television in your child's or teen's bedroom.

5. MONITOR your child and teen's use of screen time and all internet sites accessed.

6. SET LIMITS on the amount of screen time allowed. Make sure the limits are specifc and enforced.

7. SHARE what you have learned and your family's rules with other parents.

8. BE A ROLE MODEL in your use of screen time.

9. If you allow video games in your home, PLAY with your child or at least observe, especially at the higher levels since this is where the violence or other objectionable content is often found.

10. CONSULT with your pediatrician or health care professional if you are concerned that your child or teen is experiencing addiction or other negative effects from video game play.

Jane Anderson, MD

000-000-0000
md@physicianscenter.org
http://1592008.talkfusion.com