

# **Effective Limits on Video Game Play for Kids with ADHD**

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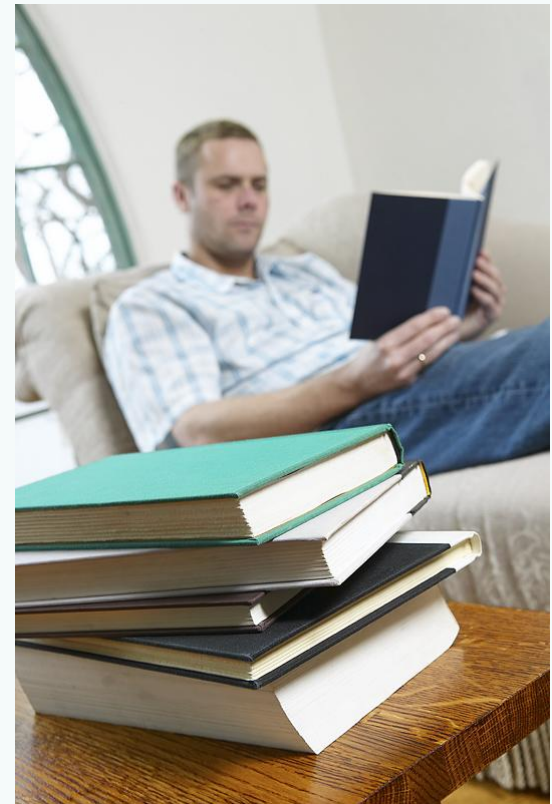
Presentation for Impact ADHD, April 30, 2014

# Takeaways

- Video games and apps can be powerful tools in learning
- Why parents of children with ADHD need to understand technology
- Make game-based skills with real world skills
- How to set effective limits for your child

# Your Kids Are Playing Video Games. Do You Have A Choice?

- Many homework and supplementary programs are available only on websites.
- Libraries are still for research (but only if you use the Internet to search).
- Everybody else is playing.
- 21st century skills require digital literacy.
- Communication requires digital technology.



# Games are Good! Executive/Thinking Skills and Video Games

- LWK pilot research on differentiated instruction, targeting areas of EF weakness with video games
- Combination of board and video games improve fluid reasoning and processing speed (Mackey, 2011)
- Working memory video games improve WM, fluid reasoning skills (Cogmed ) Intensity/duration
- Computer-based training improves executive attention in preschoolers (Rueda, 2005)
- Video game like math and reading programs improves learning, reduces attention symptoms
- Games (non video) increase cognitive load teaching tool by parents reduce ADHD signs in Preschoolers (Halperin, 2012)
- Dosis (2011) study on games to improve working memory

# Research-based Technological Recommendations

- Cogmed Working Memory Training
- Action video games for improving selective attention (Green and Bevalier)
- DDR and Improved reading
- Headsprout and ADHD kids
- Computer -based math programs and ADHD
- Other studies, eg Interactive metronome, Play Attention, Brain Train Products, Lumosity, Posit Science's BrainHQ
- LWK research on EFS



# What makes a game or app a good teaching tool for children with ADHD?

- It is engaging and sustains attention.
- It practices a specific skill the child needs to improve such as focus, planning, or time management.
- It promotes persistence of effort and a willingness to overcome obstacles.
- It is complex and interesting enough to result in duration and intensity of game play.
- Generalization of game-based skills can be applied to the real world.

# **Problematic behavior in video-game play in children with ADHD**

- More than one hour a day is associated with short term increased signs of inattention (Taharoglu)
- Increased difficulty in transitioning and stopping video-game play, resulting in more oppositionalism
- More video-game time is associated with increasing signs of inattention (Mazurek and Engelhardt 2013 study)
- Video-game play can be associated with video-game addiction related to Dopamine release in the brain (Han and colleagues 2009)

# Do Video/Computer Games and Television Impact Attention Span?

- Total time spent with screen media is positively associated with attention problems (Swing, Gentile, et al. 2010).
- Four-year-olds watching Spongebob can have an immediate negative effect on children's executive-functioning skills (Lillard 2011).
- Television/Video-game use along with exposure to violent content not predictive of attention problems or grade point average (Ferguson 2010)
- Is digital media the cause of increasing rates of ADHD?



# Do Video/Computer Games and Television Impact Attention Span?

- Improves capacity to rapidly filter visual distractions, but may negatively effect focus on slow streams of information (Bavelier)
- Leads to listlessness and discontent in slow-paced and less stimulating academic, work, and social environments (Merzenich)
- Attention skills improved by video games (detecting differences and orienting attention) are liabilities in classroom resulting in distractibility (Gentile)

# How well do game based skills transfer to the real world?

- Game play alone results in modest improvements in real-world executive skills
- Children with learning and attention problems have problems in generalizing strategies
- Kids like to talk about playing video games and may be willing to learn from that
- Games prompt partnering and motivation to learn executive skills
- Practice and rehearsal of executive skills

# Play Together

- Talk before, during, and after gameplay. Choose gameplay goals with your child.
- Have fun playing the game with your child!
- Reflect on gameplay, emphasizing the use of the targeted thinking or academic skills.
- Direct your discussion to how these same skills are useful in daily activities.

# Make it Work

- Explain the benefits of digital play, and introduce the skills being exercised in the game.
- Encourage non-digital activities that use the same skills.
- Regularly connect game-based skills to things your child is struggling with in the real-world.
- Try different games and skills

# What Types of Games and Apps Should a Child with ADHD Use?

- Developmentally rather than chronologically age-appropriate
- Genres rather than specific games
- Active games, the more active and vigorous movement the better
- Puzzle games- Help with time management and focus
- Working-memory games, both formal training and casual games
- Planning games that require setting long- and short-term goals
- Apps that help with organizational and time-management skills



# Angry Birds

- Birds are used as projectiles to hit pigs that are protected by structures.
- Players plan out each shot and predict the consequences of his shot.
- Each level is set out uniquely so the player to flexibly change strategies.



# Angry Birds



# How Much Should Your Child with ADHD Play Video Games?

<u>Age</u>	<u>Amount of Time</u>
0 to 24 months	not at all
2 to 5 years	30 to 60 minutes a day (joint media engagement the rule)
6 to 9 years	30 to 60 minutes a day (parents select games)
10 to 13 years	30 to 60 minutes a day (parents monitor game selection)
14 years old older	30 to 90 minutes a day (emphasize social gaming)



# Why It Is Difficult to Set Limits on Game Play with Children with ADHD

- Concerns regarding time management and time blindness
- Difficulty with shifting and transitions from one activity to another
- Tendency to become overly focused on video-game play
- Oppositional tendencies seen with children with ADHD
- Child's sense of success and reward in playing video games
- Parent's sense of peace and reduction of conflict



# Minecraft

## PlayBook: Minecraft

GAME FACTS

HOW IT HELPS

PLAY TOGETHER

MAKE IT WORK

MATHEMATICS

AUTISM

ADHD



**Title:** Minecraft

**Game Type:** Action

**ESRB Rating:** Everyone

**Platform/Console:** Android, iPad, iPhone, Mac, Online, PC, Xbox 360

**LWK Recommended Age:** 6+

**Thinking Skills Used:** Flexibility, Focus, Organization, Planning, Time Management

**Academic Skills Used:** Mathematics

**Buy Now/Play Now:** iTunes / Minecraft.net / Google Play

**LQ:** 9.5

**Brain grade:** 9.4

**Fun score:** 9.6

[What is this?](#)



### Game Description

*Minecraft* is an open-world game unlike any other. Players are placed in a borderless, randomly generated land with no supplies, directions, or objective. It is up to them to decide what to do and how to do it. Players collect materials from the world around them in order to 'craft' items and build whatever their mind can imagine. The concept is similar to playing with LEGOs, only the amount of blocks is limitless. There are forests to explore, mountains to climb, oceans to cross, and dungeons to discover. When the sun goes down, the monsters appear, and players must fend them off or build shelter for protection. Objectives are imagined by players, allowing them to truly create their own virtual world, mining materials and building tools to better help them do so. Due to some minimal violence and the initial complexity of the game, *Minecraft* is recommended for ages 6 and up.

**Continue**

# Strategies to Set Limits

- Insist that Minecraft be a social game
- Treat it like any other video game technology or other activity
- Set a schedule for extended Minecraft time
- Use Minecraft time as a reward of completion of less desirable activities
- Make a Minecraft date. Schedule a Minecraft party

# Strategies to Set Limits - 2

- Play non-technology Minecraft-like games
- Use game timers to set effective limits
- Make sure that Minecraft is a public played game
- Use a regular schedule firmly, but compassionately
- Make Minecraft a regular part of your healthy “play diet”

# Video Game Schedules

- An hour a day
- After homework is done
- Just like anything else
- Never on weekdays
- Anytime, anything, anywhere
- Only educational games
- Never

# Thank You

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