



The Impact of Video Games on the Brain

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START



Welcome!

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What are we learning today?



Rating Scales
and
Game Categories



Impact on the
Brain and
Cognitive
Functioning



How to talk to
your child about
this topic



Comsewogue
eSports Program



**Why Is This Topic
Important?**

Game Rating Scale



Who Creates it?

The Entertainment Software Rating Board (ESRB) enforces industry adopted guidelines that assist parents in making informed decisions regarding the games their children play.



Game Rating Scale



E



Everyone

Content suitable for all ages.
Contains minimal cartoon/ fantasy or mild violence



E 10+

Everyone 10+

Content is suitable for ages 10+.



T

Teen

Content is suited for ages 13 and up.



Game Rating Scale



M

Mature

Content suitable for ages 17+. May contain intense violence, and blood, and gore, and sexual content.



A

Adults Only 18+

Content is suitable for only ages 18+. May include prolonged scenes of intense violence.



Types of Games

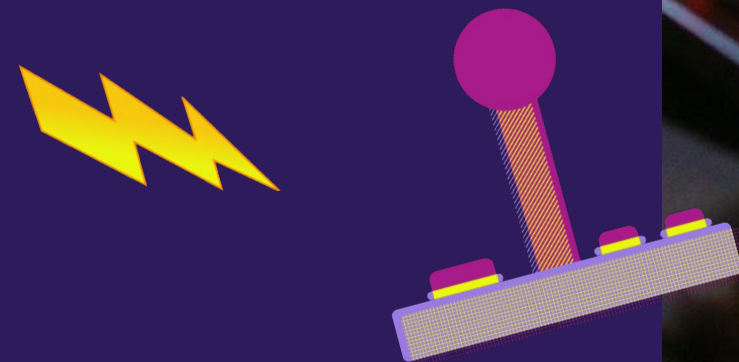
- 🌟 Action
- 🌟 Strategy
- 🌟 Movement
- 🌟 3D Sandbox Games



Action Games

These games focus primarily on hand eye coordination, reaction time, and combat.

These games are usually fast paced and require a large amount focus.



Action Game Examples

Rating:
E



Rating:
T



Rating:
M



Strategy Games

Strategy games or strategic games encourage players to utilize their decision making skills, as these skills have a high significance on determining the outcome of the game.

Strategy Game Examples

Rating:

E

Rating:

E 10+

POKÉMONTM

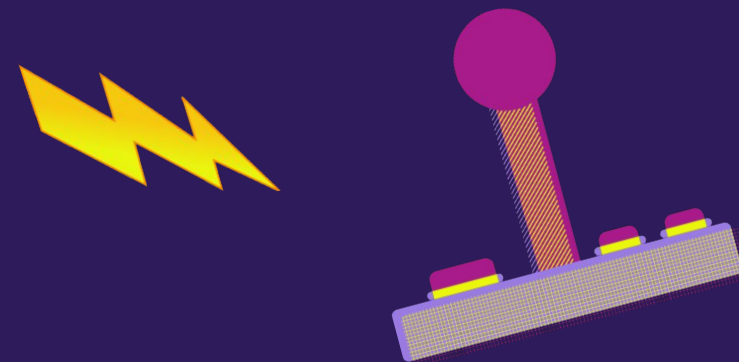


**STAR
WARS**[®]

Movement Games

Movement games allow for the player to get physically involved in the game by requiring body movement.

Movement can be full body such dancing or specific parts of the body like hands or feet.



Movement Game Examples

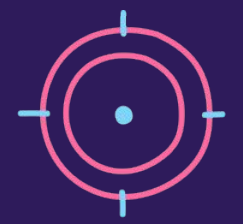
Rating:
E &
E10+



Rating:
E10+



Rating:
T



3D Sandbox Games

Video games that are not restricted to “winning” or achieving a specific goal.

There is a large degree of freedom, and the player is allowed to manipulate the game environment.

3D Sandbox Game Examples

MINECRAFT

Rating:
E

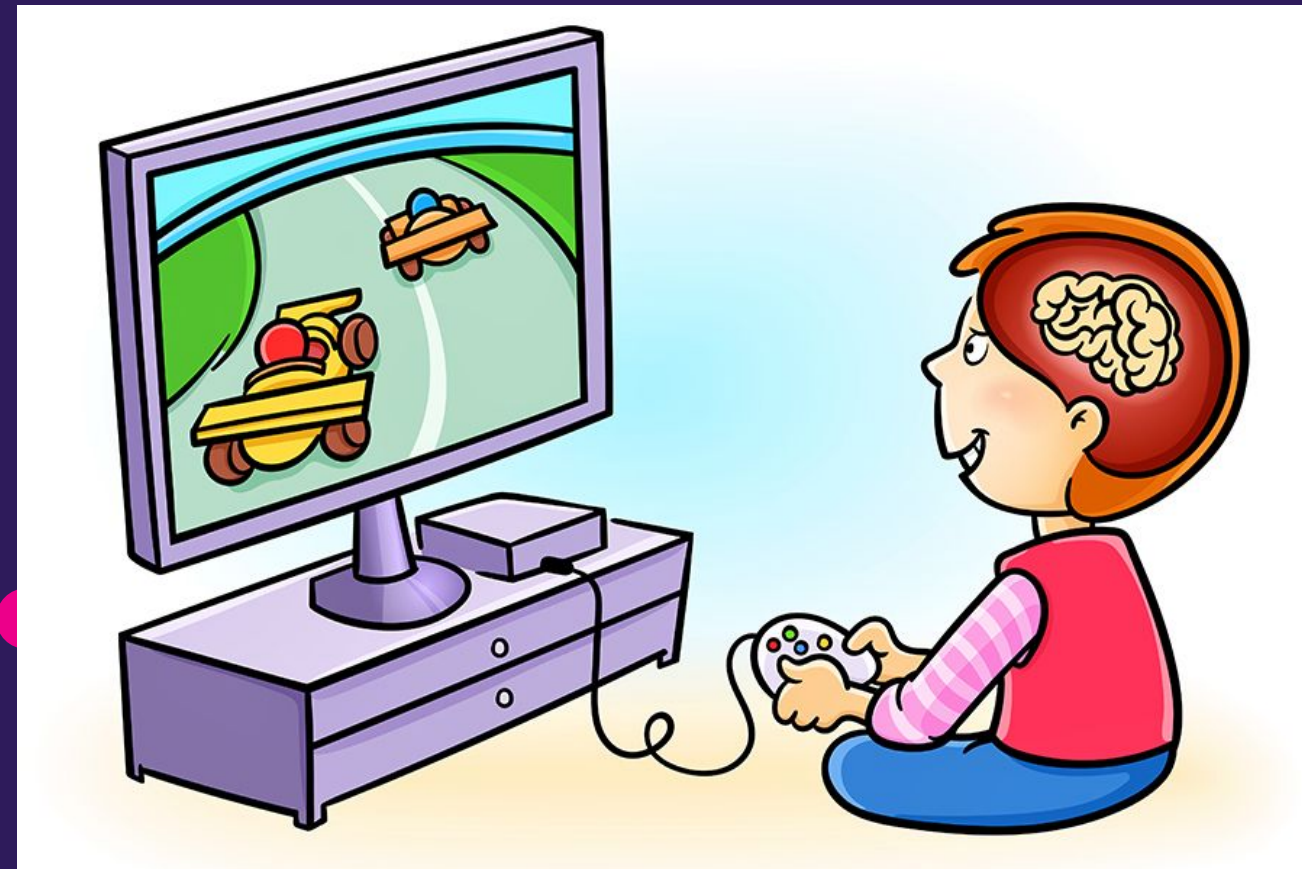
Rating:
M

**grand
theft
auto
ONLINE™**

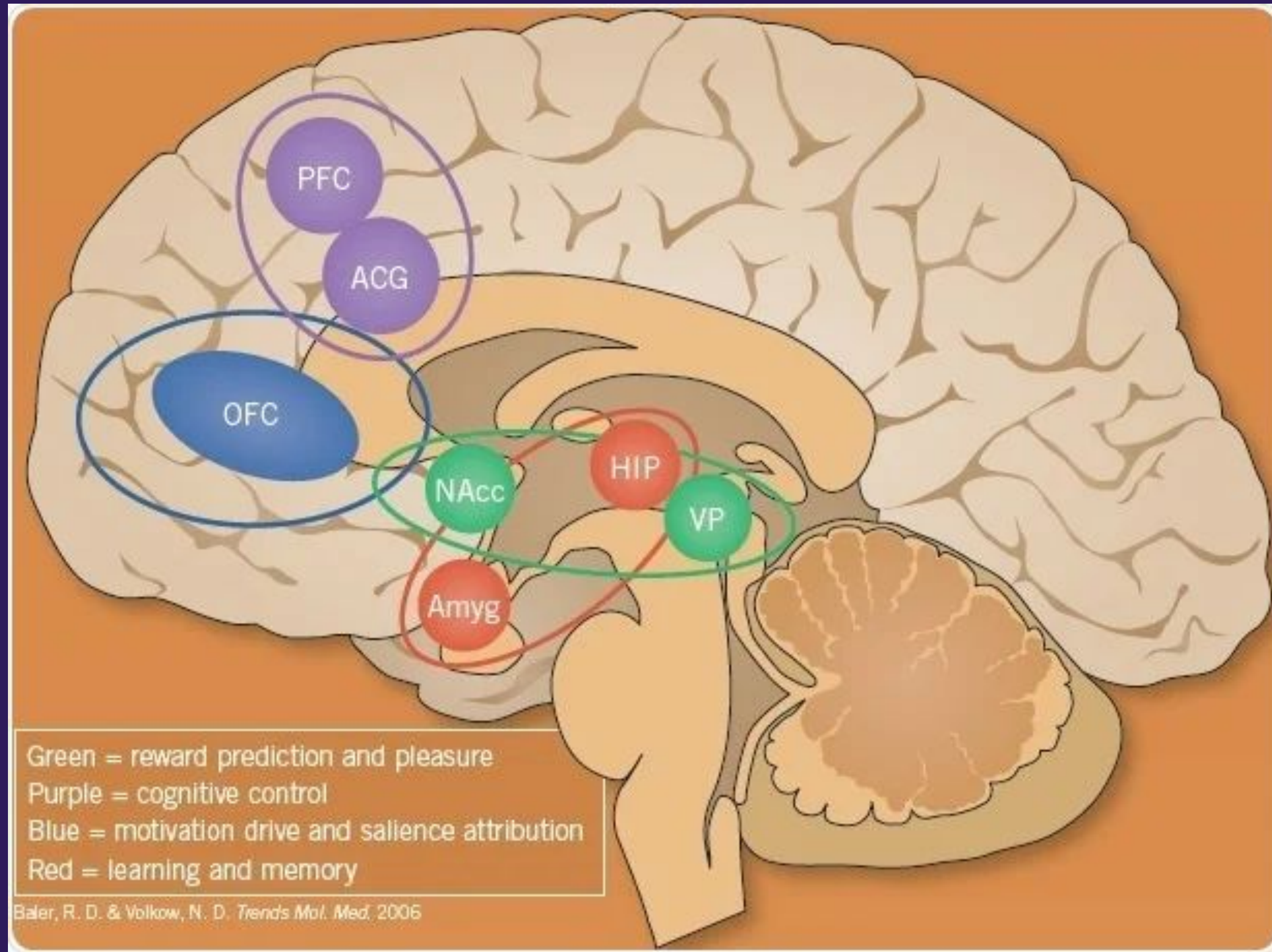
ROBLOX

Rating:
T

Impact on the Brain



Parts of the Brain





Cognitive Functioning

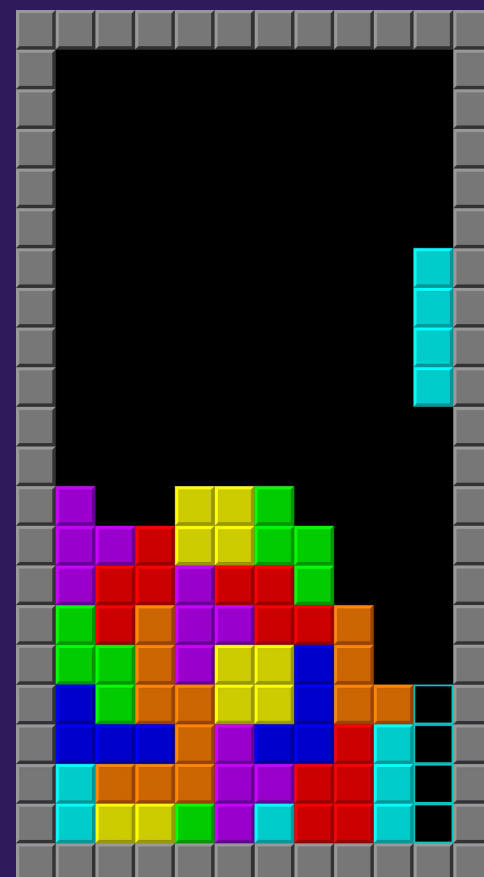


→ Action games such as Space Invaders or Halo can increase:

- ◆ motor skills
- ◆ quick thinking
- ◆ hand eye coordination

→ Strategy games such as Tetris can help increase

- ◆ logical thinking
- ◆ decision making skills

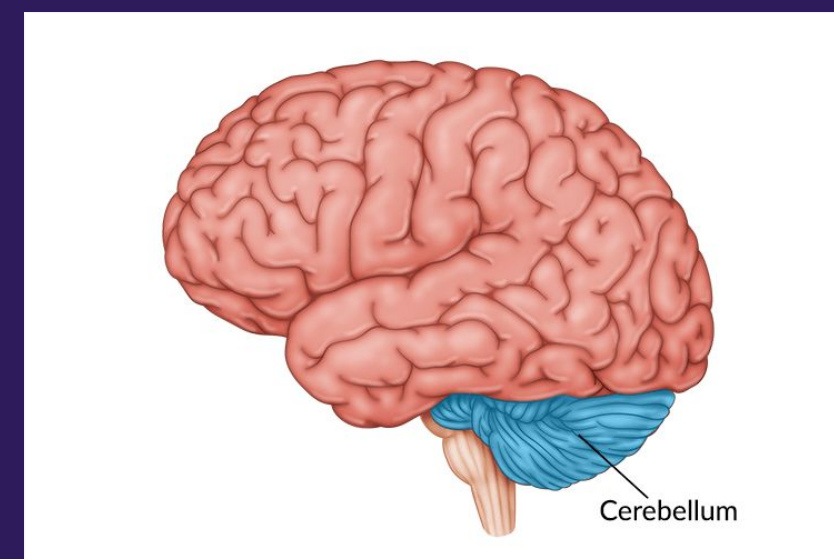
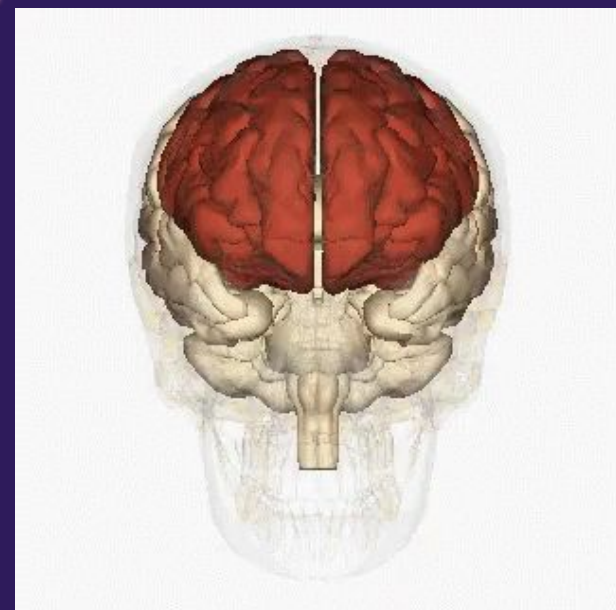




Cognitive Functioning

Positive:

- Increase in use of working memory, selective attention, and task switching.
- Increased brain matter activity in the prefrontal cortex and cerebellum
- ◆ Fine motor skills, strategic planning and attention to detail

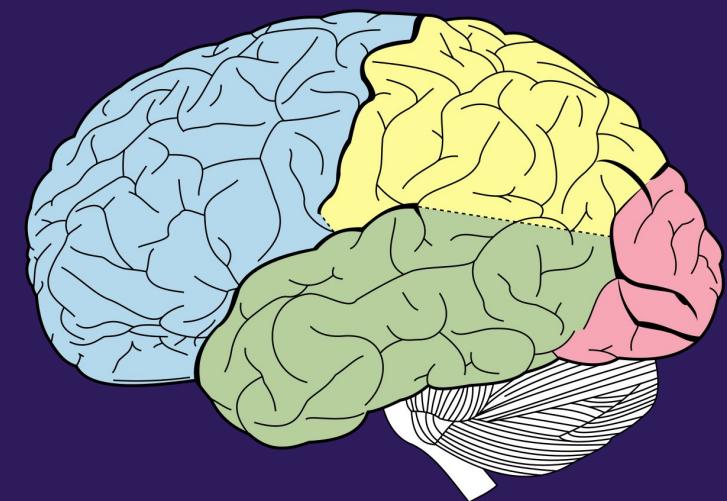


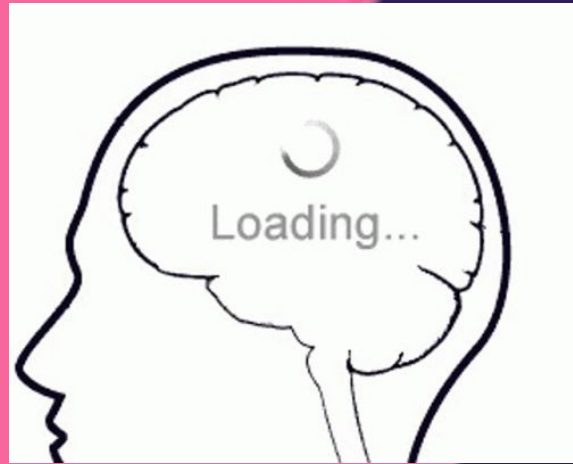


Cognitive Functioning

Negative:

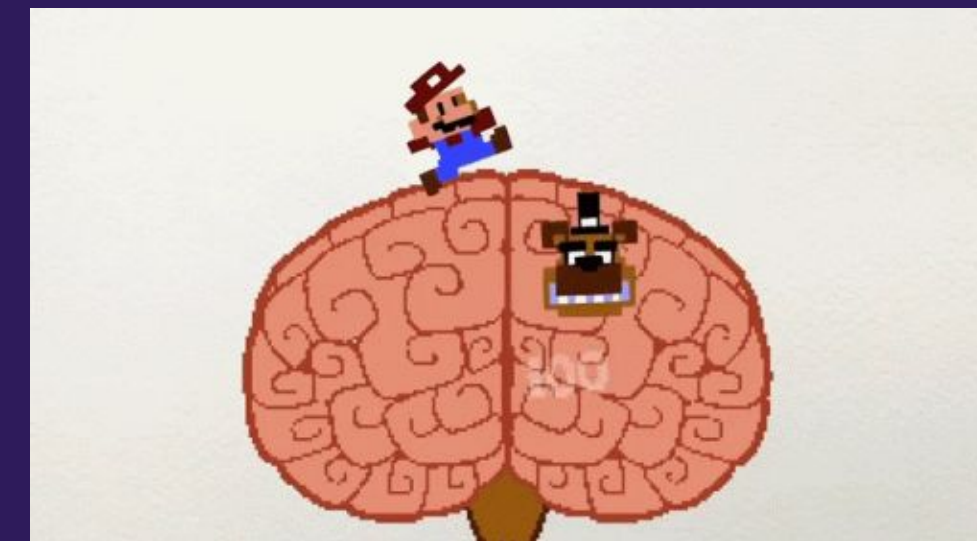
- Increase in cortisol and adrenaline levels within the brain
 - ◆ Emotional regulation disruption
 - ◆ Increase in feelings stress or anxiety
- Increase in need for instant gratification which does not transfer to real world functioning





“Video Game Brain”

- When video games are played for excessive amounts of time it can cause the underside of the prefrontal cortex to shrink
- Visible decrease in the activity in this brain region
- Can lead to symptoms such as increased moodiness, aggression and anxiety



Social Impact

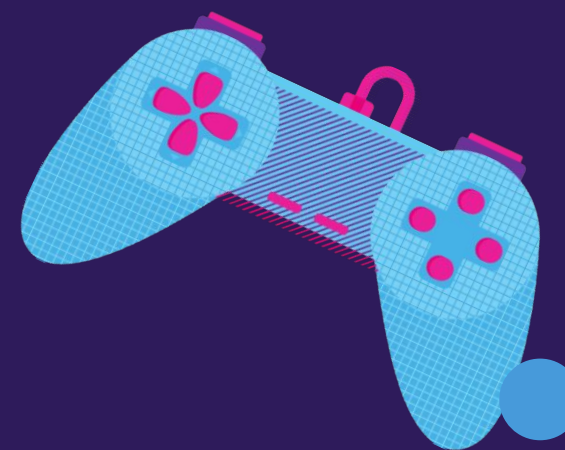
● Positive Impacts

- Increases subsequent prosocial, cooperative behaviors.
- Increase group organization and leadership skills
- Rapidly learning social skills and prosocial behaviors
- Positive effects on “helping behaviors”



Social Impact

- Negative Impacts
 - Anger and aggression
 - Social Withdrawal
 - Increased problems with self regulation
 - Internal behavior problems, such as conduct problems due to exposure to violent or aggressive scenes

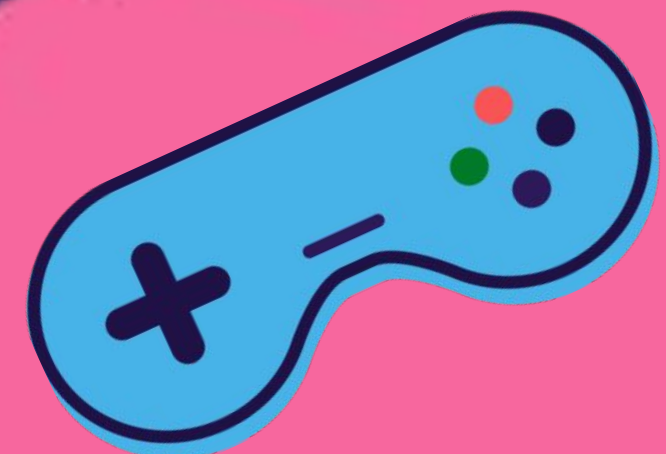




Behavioral Impact



- Aggressive tendencies are more common in younger children ages 4-11 when playing violent video games
 - ◆ Imitation of what is portrayed in the game
- Decision making skills can be altered both positively and negatively depending on the game being played.
- Addictive behavior
 - ◆ Dopamine secretion increase during game play due to feeling of reward and pleasure.
 - ◆ These feeling can lead a game player to have more want to return to the game.



Emotional Impact

Positive Impacts

- Mood management
- Source of connectivity and inspiration
- Dealing with frustration and anxiety in adaptive ways
- Resiliency
- Enhances positive feelings

[MENU](#)

Negative Emotional

Impacts

- ★ Aggressive thoughts & behavior, and desensitization: decreased empathy for others
- ★ Players may feel anxious about the outcome of the game
- ★ Risk- promoting cognitions and emotions, sensation seeking through impulsive behaviors
- ★ Depression or somatic complaints



CAN

VIDEO GAMES

MAKE YOU

SMART?



Overall Pros and Cons of Video Game Play



Pros

- Can be used as a key learning tool: promotes active involvement
- Prosocial video game play leads to increase in helpful behaviors
- Increase in brain activity for:
 - Problem solving skills
 - Resilience
 - Working Memory
 - Hand-eye coordination/fine motor skills



Cons

- Playing violent games can lead to aggressive behavior tendencies
- Desensitization to violence and deviant behavior
- Children may develop antisocial behaviors
- Increase in feelings of stress or anxiety
- Frontal lobe shrinkage
 - “Video Game Brain”

How to talk to children about their video game play

★ Understanding excessive playing

→ Establish an amount of playing time that works for you and your child

★ Establishing Parental Controls

→ Parental controls can be set to restrictive, or non restrictive settings depending on what works for your child

★ Talk to your children about their games honestly

★ Discuss Online Safety

→ Setting ground rules on safe interactions with players





Speaking to your children about their video game playing, and setting up parental controls!

Resource Is Linked Below!

#Seizethecontrols

#Seizethecontrols

#SEIZE THE CONTROLS

[How to](#) [About](#) [Reporting tools](#) [European sites](#)

Manage play by age rating and descriptors.

Select which games you are happy for your children to play (based on the PEGI age ratings).

Manage time spent playing

Manage and control the amount of time your children can spend playing games. More on weekends, less on weekdays? Find the balance.

Restrict communication with others

Some games allow players to interact with one another within the game. The parental control settings allow you to limit or even prevent your child from communicating with other players. You can set the communications to friends only, friends of friends, anyone, or no one.

Control spending

Some video games may offer the opportunity to make purchases within the game but this will be indicated on the game by a PEGI in-game purchase descriptor so you will be made aware of this.

Parental controls at your fingertips

Publisher's own platforms increasingly offer parental controls tools and additional verification mechanisms.



→ Parental Controls - Nintendo



→ Parental Controls/Family Management - PlayStation



→ Family Settings - Xbox

#SEIZE THE CONTROLS

VIDEO+
GAMES
EUROPE

VIDEO+
GAMES
EUROPE

5 tips for players and parents

- 1 Check the games' PEGI ratings
- 2 Set up family settings or parental controls
- 3 Play together
- 4 Keep them safe online
- 5 Find out where to start in your language

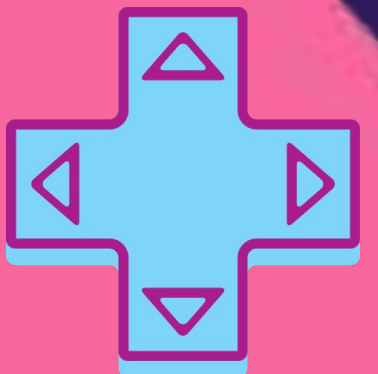
#SEIZE THE CONTROLS

VIDEO+
GAMES
EUROPE

Tips On Managing Video Game Use

- Know the rating of the video game your child is playing
- Avoid installing video game consoles in your child's bedroom
- Supervise your child's internet use, many video games are available online
- Knowing the content of the video game your child is playing, so you can continue to monitor any behavior changes

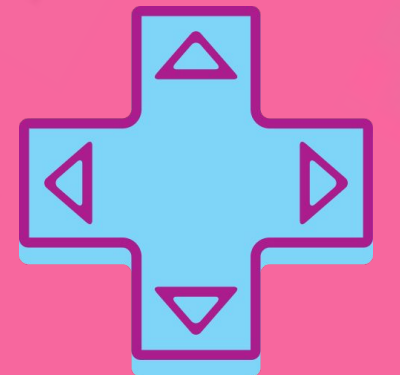
How Video Games Can Heal Our Brains



Comsewogue's eSports Game Program

● Benefits of E-sports

- Enhances students ability to work as a team
- Learn to coordinate and strategize with their teammates
- Within a team, students are able to cultivate their leadership skills
- Fostering the ability to problem solve, and think critically



Comsewogue eSports

- ❑ Our Comsewogue High School and JFK Middle School is home to a next level eSports program
- ❑ Our Club Has over 60 combined members that engage in both competitive and casual play
- ❑ For many of our members, this is their first club/extracurricular, making the program extra special to many



When and Where?

- ❑ Comsewogue High School eSports Meets every Thursday from 2:30pm - 4:30pm. JFK eSports meets on Monday's during x-time.
- ❑ All students are welcome and encouraged to come share their passion for video games with other fellow students and build upon their teamwork, collaboration and social skills



Thank you!

Questions?

Contact Information!

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Coming soon:
Social Media

Ms. Liebling & Ms. Guidone
Feb 5th @ 5:30pm

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