

The Endless Cycle of Video Game Addiction

Video games are electronic, interactive games known for their vibrant colors, sound effects, and complex graphics. This generally involves pressing buttons that directly impact a screen. Fun activities such as playing video games, generally release dopamine into the body which causes addictions.

Physiology of Video Game Addiction

Playing video games has become a popular recreational activity for kids, teens, and adults. Some spend more than six hours a day playing video games, which might cause many problems. Video game addiction also known as Internet Gaming Disorder (IGD) has been gaining increasing attention, has become a serious public health issue with increased prevalence.

Some studies have shown that video game addicts have similar brainwaves to those who partake in substance addiction and gambling. There also have been association between video game addiction and depression, among other social and psychological problems.

Mainly, IGD impacts the neurological, psychological, and behavioral physiology of people.

|Neurological Mechanisms

As said earlier, the key factor for addiction is the release of dopamine, neurotransmitter associated with pleasure and reward. This is comparable to that seen with drug abuse, which activates the brains reward system. There are also effects on brain structure such as:

- **Prefrontal Cortex**-responsible for impulse control and decision making
- **Ventral Striatum**-associated with reward and pleasure
- **Amygdala**- Emotional reactivity, such as frustration when gameplay is restricted.

|Psychological Mechanisms

Excessive gaming alters the brain's reward circuitry thus causing desensitization to natural rewards which reduces ability to experience pleasure from everyday activities Thus having poorer mental health and hard time of controlling impulses. Video games can also cause anger or frustration, depending upon the game

|Behavioral Mechanisms.

IGD also leads to dopamine dysregulation in the brain, where excessive gaming causes receptor downregulation, diminishing the ability to experience pleasure, thus increasing risk of social isolation and avoidance behaviors associated with compulsive gaming result to social withdrawal.

On the other hand, aside from its negative effects mentioned above, many studies support gaming's positive effects on neuroplasticity. Which is stimulated by learning, memory, attention, and problem-solving. Some individuals receive greater benefits in cognitive ability due to gaming.

Consequences of Video Game Addiction

People who are addicted to video games tend to experience a variety of mental health problems such as anxiety, depression and loneliness. Research has determined that people who have symptoms of Attention Deficit Hyperactivity Disorder (ADHD) are more susceptible to developing video game addiction, which can exacerbate these negative effects on mental health.

The relationship between gaming and emotional health is quite complex, as engaging in games might be a temporary escape from things while overdoing it can wear on someone's mental state.

Video game addiction has massive social consequences. Addicted gamers often experience social isolation and lack of interpersonal relationships. Since playing games can be an immersive experience, this might affect the social aspect of a person and they end up feeling lonely in real life which could fuel their withdrawal from more social activities.

Lastly, IGD also impacts academic performance and occupational functioning. Students may neglect school responsibilities and homework. For adults, they may struggle to maintain productivity at work, leading to job-related consequences and decreased career advancement opportunities.

Video Game Addiction Withdrawal

For people who are addicted to video-games. The following withdrawal symptoms are likely to be experienced in order to limit or stop gaming:

1. Headache
2. Irritability and aggression
3. Depression
4. Fatigue
5. Muscle aches
6. Changes in appetite
7. Difficulty concentrating
8. Sleep disturbances
9. Anxiety and restlessness
10. Cravings for gaming

Signs and Symptoms

According to a guide made by the World Health Organization (WHO), suggests that abnormal gaming behaviors should be in evidence over a period of at least 12 months "for a diagnosis to be assigned" but added that period might be shortened "if symptoms are severe".

Cleveland Clinic lists down the following signs and symptoms:

- Poor performance at school, work or household responsibilities as a result of excessive video game playing.
- Withdrawal symptoms, such as sadness, anxiety or irritability, when games are taken away or gaming isn't possible.
- A need to spend more and more time playing video games to get the same level of enjoyment.
- Giving up other previously enjoyed activities and/or social relationships due to gaming.

- Being unable to reduce playing time and having unsuccessful attempts to quit gaming despite the negative consequences it's causing.
- Lying to family members or others about the amount of time spent playing video games.
- A decline in personal hygiene or grooming due to excessive video gaming.
- Using video games as a way to escape stressful situations at work or school or to avoid conflicts at home.
- Using video games to relieve negative moods, such as guilt or hopelessness.

Treatment

Video gaming addiction needs multifaceted treatment through some behavioral therapies, counseling, and support systems. Cognitive Behavioral Therapy (CBT) is deemed as the most effective type of treatment to date. Such a thing allows people to start catching and breaking vicious cycles of destructive thinking that lead them into further indulgence in such patterns of vicious gaming. Other possible therapies comprise Motivational Interviewing, Reality Therapy, and Wilderness Therapy. All of them offer different approaches to fighting an addiction.

In addition to counseling, support groups such as Online Gamers Anonymous provide peer support, which enables individuals to compare and discuss experiences in addition to coping strategies. Outpatient treatment may be suitable for some patients since it provides the flexibility of treatment while maintaining the daily activities of the patient and its interaction with social life.

While there are no medications that have been approved to treat video game addiction, patients with multiple mental disorders, such as depression and anxiety, could be assisted by the medication that directly targets these disorders. This will also raise the prospect of a better recovery as withdrawal symptoms have been proved to cause irritability, craving among others

References:

1. *Videogames*|*Encyclopedia.com*.(n.d.).
<https://www.encyclopedia.com/science-and-technology/technology/technology-terms-and-concepts/video-games>
2. Welsh, J. (2011, November 15). Brains of excessive gamers similar to addicts. *livescience.com*. <https://www.livescience.com/17033-gamer-brain-reward-system.html>
3. Mohammad, S., Jan, R. A., & Alsaedi, S. L. (2023). Symptoms, mechanisms, and treatments of video game addiction. *Cureus*. <https://doi.org/10.7759/cureus.36957>
4. Krarup, K., & Krarup, H. (2020). The physiological and biochemical effects of gaming: A review. *Environmental Research*, 184, 109344. <https://doi.org/10.1016/j.envres.2020.109344>
5. *World Health Organization (WHO), Addictive behaviours: Gaming disorder*. (n.d.).
<https://www.who.int/news-room/questions-and-answers/item/addictive-behaviours-gaming-disorder>
6. *Video game addiction*. (2024, September 20). Cleveland Clinic.
<https://my.clevelandclinic.org/health/diseases/23124-video-game-addiction>