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Video Game Addiction Among Adolescents

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Abstract: *In recent years, the field of video games has developed at an overwhelmingly rapid rate. Worldwide, it has managed to attract more than two billion users, of which the most important percentage was represented by teenagers.*
While video gaming is one of the most popular leisure activities, it has been proven that it poses some potential threats to the physical and mental health.
This study aims to identify the positive and negative effects associated with the excessive playing of video games.
It has been found that there are many misconceptions about the impact of video games on health. Research focused on the negative effects found serious consequences such as: reduced physical activity, vision problems, reduced patience, decreased concentration, depression, anxiety, aggression and sleep disturbances. However, recent studies have also recognized the potential benefits. These include: developing social skills, boosting mood, increasing self-confidence, developing problem-solving skills and spatial imagination.
In conclusion it is important continuing the research and collaboration among professionals in the field to improve the outcomes and treatment for those affected.

Keywords: *video games, addiction, technology, computer, devices;*

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1. Introduction

Video game addiction among teenagers has become a growing concern in recent years. With the increasing availability and popularity of video games, many adolescents are spending excessive amounts of time engaged in gaming activities, which can lead to addiction. This paper aims to analyze the statistics of video-game addiction and to explore the advantages and disadvantages of playing video-games. By understanding the impact of this type of addiction, it is possible to develop effective prevention strategies and interventions.

1.1. Research methodology

The information used for paper was collected from various medical sources across the internet (e.g. PubMed, Google Scholar).

1.2. Definition of Video Game Addiction

Video game addiction is characterized by excessive or compulsive gaming behaviour that leads to negative consequences in many areas of an individual's life. According to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), this behavioural addiction falls under the category of Internet Gaming Disorder (IGD). The diagnostic criteria include: preoccupation with gaming activities, withdrawal symptoms, failed attempts to control or reduce gaming time, loss of interest in other activities or hobbies due to excessive gaming, continued use despite negative consequences (Jin et al., 2021).

1.3. Signs and Symptoms

Knowing the signs and symptoms of video game addiction is crucial, and the sooner one seeks treatment, the better. The indicators of video game addiction may be overlooked by therapists since video games are still a relatively recent technological advancement. These signs are:

- Obsession with gaming;
- Lying about the amount of time used to play video games;
- Becoming defensive and furious when the addicts are compelled to stop their behaviour;
- Continuing the behaviour despite its consequences;
- Using the Game World as an escape from the real world;
- Loss of interest/joy in daily activities;
- Isolation from family or friends;

- Neglection of home, work, or school responsibilities.

1.4. Prevelance

The prevalence of video game addiction varies across different populations and studies. According to the World Health Organization (WHO), the global prevalence of gaming disorder is estimated to be between 1% and 3% among the general population. In a 2021 systematic review and meta-analysis, Stevens et al., (2021) showed that the global prevalence of gaming disorder was found to be 3.05%. 3-4% of gamers were addicted to video games.

However, it's worth noting that prevalence rates can vary based on the criteria used to diagnose and assess the disorder, as well as cultural and regional factors.

The mortality rate directly related to video game addiction is relatively low. However, it is important to consider indirect consequences, such as sedentary behaviours associated with excessive gaming, which can contribute to increased risk of obesity, cardiovascular diseases, and potential premature death.

1.5. Advantages of Video Games

Video games have become an integral part of modern entertainment, and they certainly offer several potential advantages. One notable advantage is the potential for cognitive development. Many video games require problem-solving skills, strategic thinking, and quick decision-making, which can improve attention, memory, and hand-eye coordination. Some studies determined beneficial outcomes on the brain structure using the MRI method, showing that the grey matter, functional connectivity and activity of the brain changed (Brilliant et al., 2019). Gaming was found to have attentional benefits (like bottom-up and top-down attention, selective and peripheral visual attention, attentional and sensorimotor areas integration) and can be beneficial for creativity, logic and problem-solving tasks (Jin et al., 2021; Palaus et al., 2017).

Moreover, it improves visuospatial working memory capacity. Boot et al. (2008), found that VGs performed better that non-VGs (NVGs) on mental rotation and multiple object tracking. Similarly, the same results were found in experimental vs control group research designs (Blacker et al., 2014).

Additionally, certain video games can provide educational benefits. They can be designed to teach specific subjects such as math, science, language, or history in an engaging and interactive way. These educational

games can enhance learning outcomes and make the learning process more enjoyable for individuals of all ages.

Williams & Ayres, (2020) showed that gaming is an effective way to enhance overall physical activity levels in adolescents.

Online gaming platforms and multiplayer features enable people from different parts of the world to connect and interact in a virtual environment. This can lead to the development of friendships, teamwork, and even the formation of communities cantered around shared interests (Nugraha et al., 2021).

Furthermore, video games can also serve as a form of stress relief and provide relaxation for some individuals.

1.6. Disadvantages of Video Games

One of the primary drawbacks of video game addiction is the psychological toll it may take on individuals. Video games offer a temporary escape from the realities of everyday life, which can be appealing to those seeking solace. However, excessive engagement can result in individuals becoming emotionally detached from their immediate surroundings, leading to increased social isolation, stress, anxiety and depression (Mentzoni et al., 2011; Zamani et. al., 2009; Wang et. al., 2022) and potential decline in mental wellbeing.

Moreover, effects like increased aggression or impulsivity have also been observed in this type of addicts (Nugraha et al., 2021).

Academic performance decline is a common consequence as prolonged engagement in gaming may result in reduced study time and poor concentration on school tasks (Alrahili et al., 2023).

Social isolation is another common consequence of addiction, as individuals may withdraw from real-life relationships in favour of virtual ones. Gamers who partook in role-playing games scored higher on the shyness and lower on self-esteem levels, preferred solitude and had fewer offline connections (Von der Heiden et. al., 2019, Luca et al, 2022).

With the advent of immersive gaming experiences, people often find themselves engrossed in extended sessions of gameplay. The sedentary behaviour (like the inadequate exercise and prolonged periods of sitting) and the poor dietary habits can lead to many health issues such as obesity, cardiovascular problems, and musculoskeletal disorders. Another noticeable disadvantage of video game addiction is the disturbance in sleep patterns (Pandele et al., 2021). Engaging in late-night gaming sessions may disrupt the natural sleep-wake cycle, leading to sleep deprivation. One study showed that participants with gaming addiction had a significantly poorer subjective

sleep quality and a lower sleep duration and reported more sleep disturbance and worse daily dysfunction. (Zaman et al., 2022). Sleep deprivation can negatively affect cognitive functions, mood regulation, and overall productivity.

Video game addiction can give rise to cognitive distortions, where individuals may struggle to distinguish between virtual and real-life situations. Excessive exposure to simulated scenarios can compromise critical thinking, problem-solving abilities, and decision-making skills, jeopardizing academic or professional performance, and impeding personal growth.

1.7. Treatment

Treatment options for video game addiction include psychotherapy, cognitive-behavioural therapy, support groups. Education and awareness campaigns aimed at promoting responsible gaming habits, setting limits, and encouraging a healthy balance between gaming and other activities can also play a crucial role in preventing and reducing the prevalence of video game addiction.

Cognitive-behavioural therapy (CBT) has shown promising results in treating gaming disorder. CBT helps individuals identify and modify maladaptive thoughts, beliefs, and behaviours related to gaming. Family therapy also plays a significant role in the treatment process and it helps in addressing communication patterns, family dynamics, and potential enabling behaviours that might contribute to the maintenance of video game addiction. It can foster healthier relationships, improve support systems, and establish a conducive environment for recovery. There are also support groups and peer-based interventions that help individuals struggling with video game addiction (Izzat et al., 2021). Support groups provide a platform for individuals to share their experiences, challenges, and successes in a supportive and non-judgmental environment. Peer support can instil hope, encourage accountability, and provide practical strategies for managing cravings and triggers associated with gaming. In some cases, residential treatment programs or inpatient facilities may be necessary, particularly for individuals with severe addiction and functional impairments.

However, it's important to note the medications used to treat underlying mental health conditions, such as depression, anxiety, or attention-deficit hyperactivity disorder (ADHD), that could indirectly impact video game addiction. If an individual with video game addiction has comorbid mental health conditions, treating those conditions with

appropriate medications may help alleviate symptoms and potentially reduce the severity of the gaming addiction.

1.8. Conclusion

In conclusion, video game addiction has both advantages and disadvantages. While video games can offer cognitive stimulation, social connections, and even educational benefits, excessive and problematic gaming can lead to various negative consequences. Striking a balance between responsible video game use, personal well-being, and other life responsibilities is crucial to optimize the benefits and minimize the potential drawbacks. By addressing the underlying factors contributing to addiction, enhancing coping skills, and promoting a healthy and balanced lifestyle, individuals can successfully overcome video game addiction and regain control over their lives. Continued research and collaboration among professionals in the field are paramount to further advancing treatment for those affected by video game addiction.

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