# IMPACT OF VIDEO GAMES ON HUMAN BEHAVIOR AND HEALTH

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***Abstract.*** *This article explores the impact of video games on human behavior and health. While video games can be a source of entertainment and have educational benefits, there are also concerns about their negative impact on addiction, decreased physical activity, aggression, decreased attention spans, and insomnia. The article discusses how video games can aid in learning new skills, provide a healthy outlet for stress, and encourage creativity. It also highlights the social aspect of video games, which can connect people globally. The article examines the issue of bullying in video games and emphasizes the need for moderation in gaming habits. It concludes that while video games have both pros and cons, their benefits can be maximized by promoting moderation and responsible usage.*

***Keywords****: video games, education, health, human behavior*

### Introduction

Video games have become a ubiquitous part of our society and are enjoyed by people of all ages. While they can provide a fun and entertaining form of leisure, they also raise concerns about their impact on human behavior and health. In this article, we will explore the pros and cons of video games, as well as their effects on human behavior and health, and the issue of bullying in video games.

### Positive aspects

Video games can be used to learn new skills and improve players' hand-eye coordination. There are some educational games designed to teach people about specific subjects, such as history or science. A developing trend in the education sector is the use of video games for educational purposes. According to Mark Griffiths' research, video games can give students a fun and engaging learning experience, improving the effectiveness of education and students' involvement level [1].Video games may be used in a variety of areas, including history, science, foreign languages, etc. by combining games with conventional teaching techniques. For instance, several Assassin's Creed video games are used for virtual excursions during historical lessons in UK classrooms [2].

In addition, playing video games can aid students in improving hugely important abilities like problem-solving, critical thinking, and decision making. Numerous studies have confirmed this. A University of Texas study, for instance, discovered that playing strategy games like Starcraft can enhance a player's cognitive flexibility, i.e. "a trait linked to a person's ability to find creative solutions to problems and juggle different concepts simultaneously" [3]. These results imply that using videogames in the classroom can aid students in developing important skills that are essential for success in the modern world. Thus, the educational use of video games has the potential to revolutionize the way we teach and learn.

Video games can provide a way for people to connect with others, regardless of their location. Many games have online multiplayer modes that allow players to compete or collaborate with others from around the world. Research analyzed over 5000 messages sent by gamers while playing multiplayer games, and it showed that those messages were 3.2 times more likely to be socio-emotional than task-oriented. Furthermore, over 70% of the socio-emotional messages were positive. This means that video games with multiplayer features are not just a source of entertainment, but also a way for people to communicate and connect with each other [4].

Video games can provide a healthy outlet for stress, allowing players to escape from the challenges of daily life and immerse themselves in a virtual world. A randomized controlled study demonstrates strong correlation between playing casual video games and decreased level of physical stress and relaxation of autonomic nervous system. This coincided with changes in heart rate variability of trial participants. Thus, video games can indeed be a great way of relieving stress and may potentially be used to treat stress related medical disorders [5].

Many video games allow players to be creative and design their own characters, levels, or environments. This can be a great way to express oneself and develop one's imagination. This has been proven by research conducted by Michigan State University. 491 children took part in the study, and its results indicate that there is a link between playing video games and creativity. Children who play videogames tend to be more creative when asked to write a story or draw a picture. The results were consistent, regardless of the level of violence in the games children played, as well as participants' race and gender [6].

**Negative aspects**

According to an article on the website of the World Health Organization (WHO), some individuals may develop addiction to video games, leading to excessive time spent playing and neglect of other important aspects of their lives. The article suggests that individuals may not always recognize the problem in themselves and may need to consider feedback from those close to them if they express concern about excessive gaming habits. In such cases, it may be necessary to consider cutting back on gaming activities [7].

Video games often involve sedentary activities that can limit physical activity and outdoor experiences. Gaming requires sitting for extended periods, and players may not even realize how long they have been sitting until they get up and feel stiff or sore. This can lead to a lack of physical activity, which can contribute to obesity, cardiovascular disease, and other health problems. Additionally, spending too much time indoors can lead to a lack of exposure to natural light and fresh air, which can impact mood and overall health [8].

Some studies have linked excessive exposure to violent video games with an increase in aggressive behavior. This is particularly concerning for young people, who are still developing their values and personalities [9].

Prolonged video game play may lead to decreased attention span and difficulty focusing for extended periods. Video games are designed to be engaging, and the constant stimulation can cause individuals to become accustomed to short bursts of excitement, which can make it harder to maintain focus during non-gaming activities. Furthermore, prolonged screen time can cause eye fatigue and headaches, which can further exacerbate attention and focus issues [10].

Staying up late to play video games can interfere with an individual's sleep patterns, leading to sleep deprivation and related health problems. The bright screens of video games can trick the brain into thinking it is still daytime, which suppresses the release of melatonin, a hormone that helps regulate sleep. This can make it harder for individuals to fall asleep and stay asleep, leading to reduced quality of sleep and feelings of fatigue and irritability during the day [11].

**Other effects of video games**

Video games can have both positive and negative effects on mental health, with the potential to provide a sense of achievement and social connection on one hand, but also leading to feelings of anxiety and depression on the other. A common question is whether video games cause depression, or whether they act as a coping mechanism for pre-existing depression, exacerbating the issue [12].

Some individuals may develop depression due to excessive gaming habits, neglecting other important aspects of their lives such as social relationships, exercise, and diet. This can worsen existing depression or lead to its development. On the other hand, some gamers may turn to video games as a way to escape and cope with their depression, but this coping mechanism can eventually worsen their depression instead of alleviating it [12].

Spending prolonged periods playing video games can lead to a sedentary lifestyle and increase the risk of obesity and other health issues. Moreover, continuously staring at a screen can cause eye strain and headaches, and video games may also have an impact on eye health. Computer visual syndrome (CVS) is one of the most frequently reported conditions associated with excessive screen time.

Focusing on a brightly lit screen for too long can cause eye strain and result in symptoms like headaches, dry eyes, and blurred vision. However, various other factors, such as screen glare, poor posture, and improper lighting, can also contribute to the discomfort. If an individual has an uncorrected vision issue like myopia or nearsightedness, the symptoms can be even worse since the eyes have to strain further to focus.

Fortunately, there is a way to combat these problems:

- Employ the 20-20-20 rule – take a break every 20 minutes to view an object that is 20 feet or more away from you for 20 seconds.
- Try a pair of gaming or computer glasses to protect your eyes from harmful blue light emitted by digital screens.
- Limit screen time altogether, if possible.
- Get your eyes and vision checked on a yearly basis.
- Use good posture when sitting down to play a game. Be sure you are not sitting too close to the screen.

Playing video games close to bedtime can increase brain activity, making it difficult to fall asleep. The bright lights from the screen of a computer or television can also negatively impact sleep quality. This matters because both the quantity and quality of sleep are important for daily functioning, with poor sleep being linked to issues such as poor focus, negative moods, and reduced productivity. There are four stages of sleep, each crucial for feeling rested and prepared for the next day. Video games and screen time in general are known to interfere with sleep quality, with research suggesting that playing video games for an hour or more a day can increase the chances of poor sleep by 30%. To improve sleep, it is recommended to limit gaming time to an hour or less a day and avoid playing too close to bedtime. While some studies suggest that video games may relieve anxiety, their potential benefits for sleep are not guaranteed, and the negative effects on sleep should be taken into consideration.

Although video games are often played in a seated position, many parts of the body are used - and it can be painful. Factors such as poor posture, sitting in the same position for long periods of time and excessive use of the hands and wrists can all negatively affect physical health [13].

Playing online multiplayer video games can expose players to the risk of being bullied or harassed through in-game chat or voice communication, which can be especially harmful for younger players who are still developing their self-esteem and coping mechanisms. Beyond in-game bullying, video games can also serve as a medium for cyberbullying through social media and other online platforms. While video games can offer a fun and enjoyable form of recreation, it's important to be aware of their potential negative impacts on mental and physical health. To ensure responsible gaming, players should consider setting limits on their screen time and seek help if they or someone they know is struggling with video game addiction. Furthermore, addressing the issue of bullying in video games is crucial and support resources should be provided for those affected [13].

**Conclusions**

In conclusion, video games have both positive and negative effects on human behavior and health. On the positive side, video games can provide a fun and engaging way to learn new skills and improve hand-eye coordination, as well as aid in developing important abilities like problem-solving, critical thinking, and decision making. Video games can also be a means for people to connect and communicate with others worldwide, provide a healthy outlet for stress, and encourage creativity. However, video games can also have negative effects such as addiction, decreased physical activity, aggression, decreased attention spans, and insomnia. It is essential to recognize the potential negative effects of video games and balance them with the benefits. Overall, moderation and balance are key to enjoying video games while minimizing potential negative impacts.

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