



## The Double-Edged Sword of Gaming: Social and Behavioral Impacts of Video Game Use

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### Abstract

#### Background:

Video Games have raised concerns about addiction and psychological harm.

Organisations such as the American Psychiatric Association and the World Health Organisation have created a diagnostic criteria for Internet Gaming Disorder sparking debate about gaming and whether it should be classified as a mental health disorder.

#### Objectives:

Our research aims to explore whether video games are inherently harmful. Our research question is: Do video games *always* have a harmful effect on an individual and their community?

#### Method:

A survey was conducted among gamers and non-gamers aged 11 to 40 within our community. Closed ended questions detected weekly playtime, genre, age and the perceived benefits of gaming by gamers answering the questionnaire. Open-ended questions were included so participants could explain their experiences.

#### Results:

Respondents who gamed moderately (under 10 hours per week) associated gaming with positive results such as improved problem-solving, reflexes, teamwork, and a recreational activity for stress relief. Excessive gaming (20 or more hours per week) brought problems such as disruption in sleep, strained relationships and constant irritability.

Conclusions:

The impact of gaming is mostly due to content, self regulation and the time spent gaming. These factors play a huge role in determining whether gaming is a powerful recreational activity or a psychological harm.

*Keywords: video games, moderation, cognition.*

### **Research question**

Do video games *always* have a harmful effect on an individual and their community?

### **Research objective**

Understanding video game addiction after observation of peers.

## **Introduction**

According to resources from the American Psychiatric Association, video games are one of the most addicting technologies around us. Neurological evidence suggests similar brain changes can be seen in gamers and individuals excessively using certain substances such as alcohol or caffeine. Their proposed disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) is referred to as "Internet Gaming Disorder" (IGD). Their manual of mental disorders is said to cause a significant impairment or distress to have been included in the DSM-5-TR (American Psychiatric Association).

The World Health Organisation also classifies IGD as a distinct mental health disorder. It is classified under "Disorders due to addictive behaviours" (code 6C51), alongside gambling disorder, due to similarities in symptoms. Internet Gaming disorder can be displayed in one of these many ways:

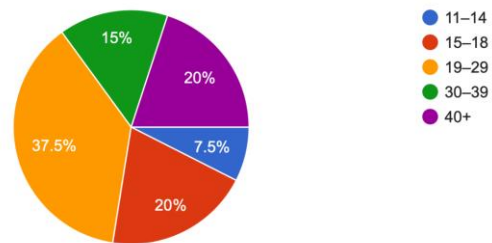
- Preoccupation with Video games
- Withdrawal symptoms when game is taken away
- Inability to reduce playing
- Loss of interest in other activities
- Gaming as an escape from real life problems
- Losing patience with self and relationships

Arguments are ongoing about the diagnostic validity and reliability of these classifications. (Musetti et al.)

In 2015, the World Health Organization [WHO] included Gaming Disorder in the draft of the eleventh edition of the International Classification of Diseases (ICD-11). This was however only the starting point of a scientific debate: most psychiatrists and psychologists with a clinical orientation supported the adoption of this diagnostic category, while others argued against it. They claimed that the scientific basis for Gaming Disorder was too weak to be formally listed as a mental health disorder. Through this paper we ascertain that gaming with moderation and a watch over the content being consumed can lessen the chances for an individual to be excessively impacted.

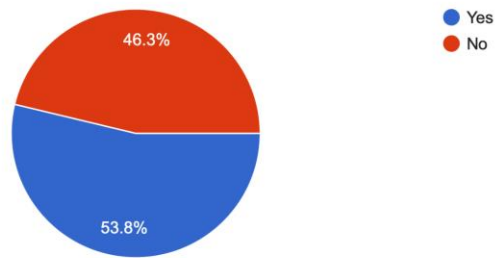
We have conducted a survey comprising gamers and non-gamers from our community. The survey, along with comprehensive reading; helps us deduce our research question. The questionnaire was sent out to age groups ranging 11-40 trying to take in as many perspectives.

What is your age?  
80 responses



Considering various factors such as cognition, effect on relationships and other miscellaneous benefits one might get from playing video games, our respondents range in specific variables like whether they game or not, total time they spend playing in a week, the genre of the game they play and the benefits they get from playing balanced with the negative effects their video games have.

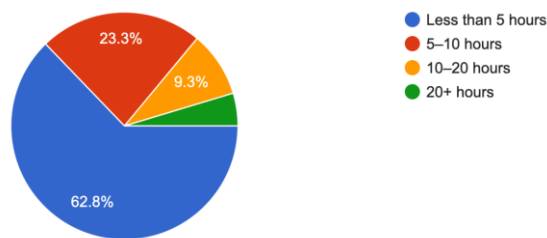
Do you play video games?  
80 responses



The main reasons for considering non-gamers in a questionnaire about Video games was to observe the differences between gamers and non-gamers in terms of cognition and their attitude towards video games in general.

The data has been collected using a blend of qualitative and quantitative research methods inquiring about experiences (such as negative effects of video games) and taking an estimated number of hours they play for.

How many hours a week do you usually spend gaming?  
43 responses

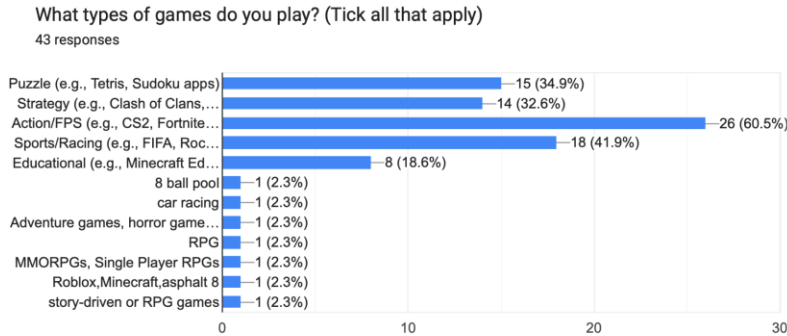


### Impact of Game Genres on Cognitive Skills

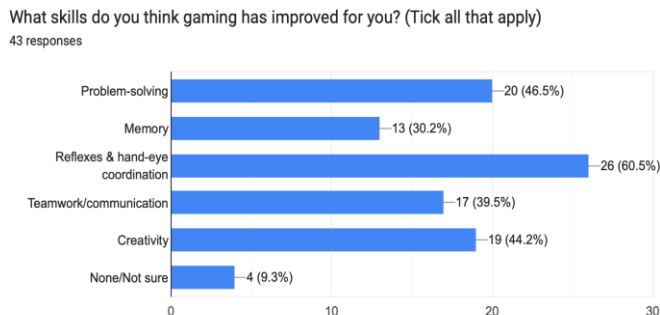
The concept of Video games began not as a commercial venture but as a technological demonstration and recreational experimental tool (Wikipedia Contributors). Till this date, Video games are used for similar purposes.

It is important to note that video games are of different genres and all genres do not yield similar effects. It would be an over deterministic claim that all video game genres have a detrimental effect on the cognition of an individual. Respondents were made to choose from the following game genres:

- Puzzle (e.g., Tetris, Sudoku apps)
- Strategy (e.g., Clash of Clans, League of Legends)
- Action/FPS (e.g., CS2, Fortnite, Valorant)
- Sports/Racing (e.g., FIFA, Rocket League)
- Educational (e.g., Minecraft Education, Duolingo)
- Other



Examples of popular games in the genre were given to avoid complications in comprehension. Closed questions opened room for faster classification and better analysis in terms of what game the respondent played and what benefit they claimed to get from it. We directly asked the respondents to reflect and select what benefits their genre brought to them considering such changes would be visible to them far more than anyone around them.



There was a direct link between playing puzzle games and an increase in problem-solving and memory abilities. Sports and racing players displayed an increase in teamwork whilst action

gamers believed their reflexes had improved significantly. This can be noted after considering the nature of such games. Action requires prompt responses from the player and games such as Sudoku demands a problem-solving mindset where the player can only move on when they have displayed the same.

Action games have often been linked to aggression and overstimulation, though causation remains debated (Anderson et al., 2010)., they have been found to enhance visual attention and decision-making speed (Dye et al., 2009). Those who seemed to engage in more “intense” games reported irritability with family and distraction during non-gaming hours.

## **Role of Play Duration and Moderation**

The effects of gaming often hinge less on *content* and more on *control*. The time spent gaming acts as the silent moderator between recreation and risk.

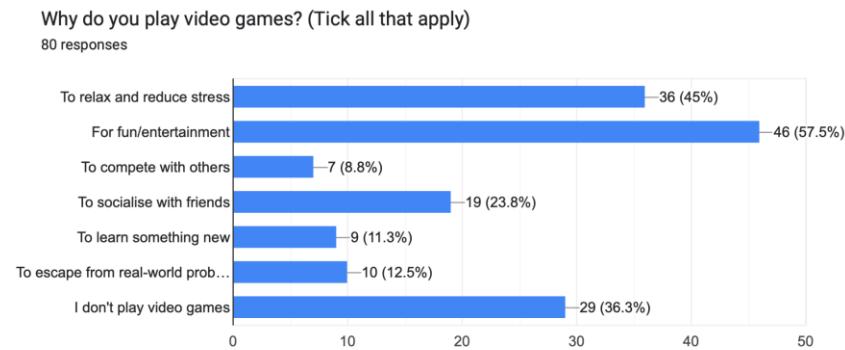
Przybylski & Weinstein’s psychological research on moderate screen engagement found that the categories of digital activity are unlikely to present a material risk to mental well-being at moderate levels, although high levels of engagement may have a measurable, albeit small, negative influence. (Przybylski & Weinstein, 2017).

It is possible that some tech activities do interfere with other structured activities during weekdays. For example, it is likely that adolescents are less likely to engage in academic pursuits if they are overusing certain forms of media on weekdays, and it may also be the case that these adolescents are less engaged in structured after-school activities that support intrapersonal and social development. Our respondents’ who played for under 10 hours a week reported gaming as a recreational activity rather than an addiction. Prolonged gaming (20+ hours/week) is often linked to sleep deprivation, reduced academic engagement, and social withdrawal (Lemmens et al., 2011). Several respondents admitted to “losing track of time” while gaming, noting dips in productivity or strained relationships.

## Video Game ‘Addiction’ and Cognitive Risks

Przybylski & Weinstein (2017) did experiments that were related to our research. Their *Goldilocks Hypothesis* shows that moderate gaming enhances well-being, while only *extreme* use yields small, negative effects. The term “addiction” is often misapplied, pathologizing normal digital leisure. Psychological distress emerges not from gaming itself, but from context and lack of self-regulation. (Przybylski and Weinstein)

40% of respondents characterized gaming as a stress-relieving hobby, citing improved focus and memory skills. This aligns with Przybylski & Weinstein’s argument that most digital play can support emotional regulation and cognitive engagement when moderated.



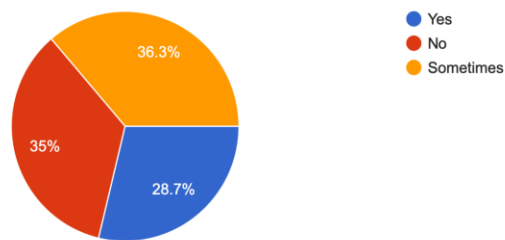
Lemmens et al. (2011) Studied pathological gaming, defined by withdrawal, loss of control, and continued play despite harm. Lemmens, Valkenburg & Peter (2011) provide a longitudinal framework for identifying *pathological gaming*:

- Salience (preoccupation with gaming),
- Tolerance (needing more play to achieve satisfaction),
- Withdrawal (irritability when unable to play),
- Conflict (social, academic, or familial strain).

They found that pathological gaming predicts higher aggression, lower social competence, and reduced life satisfaction over time. These risks appear only when play becomes compulsive and displaces social or academic engagement. (Lemmens et al.)

The gamers in our questionnaire reported preoccupation and withdrawal from other social activities alongside familial relationships. 36% believed games sometimes took over their time while 26% said that it completely took away their time and made them irritable. When asked to share instances (if comfortable) a few of them mentioned video games negatively affecting sleep, causing them to show aggression (verbal) at parents or siblings and a few of them shared instances where they experienced a child being defiant when asked to take a break from gaming.

Have you ever felt gaming negatively affected your work, sleep, or relationships?  
80 responses



## Who Benefits Most? Age, Experience, and Community Context

Insights from the questionnaire reveals respondents aged 11–18 tended to play more frequently, often choosing team-based games. These players reported that gaming helped improve coordination, teamwork, and focus, particularly when playing with peers.

Older respondents (18-30) viewed gaming more as a recreational stress-reliever than a social connector, though many credited it with enhancing problem-solving skills.

Non-gamers associated gaming with distraction, but they acknowledged its potential for community building and learning (we asked if schools should be using more games for learning)

## Incorporation of Video games in educational institutions

To steer the non-gamers from thinking of games as the conventional action kind, we asked them if they thought games can be used in educational settings, to which their response was 31% yes and 42 % were confident about using it in some aspects. Although schools already adopt many

digital tools in learning, our responses were divided with respondents wishing more games were used in the classroom whilst some wanted lessons to be taken the conventional way.

## Research design

The newest generation finds itself preoccupied with video games leading to sleep problems and fluctuating moods.

We designed a study and read through literature that supported better understanding of video game addictions, to prove that video games are a double edged sword. They aid development whilst they can also have negative effects.

## Results

Przybylski & Weinstein (2017) show that moderate play is psychologically benign, even beneficial. Lemmens et al. (2011) remind us that harm emerges only when regulation fails and play becomes compulsive. Pew Research highlights that gaming can be a site of friendship, teamwork, and civic participation especially among younger players.

Our primary data mirrors this: most gamers report cognitive and social benefits, while only a minority note negative effects tied to excess.

## Conclusion: Do Games Always Affect Us Negatively?

No, Video Games do not *always* affect us negatively. Their effects are influenced by the environment. The impact of gaming is context-dependent, not categorical. What matters is not the game itself, but the mindset, moderation, and meaning behind play. When balanced, gaming cultivates memory, reflexes, empathy, and connection; when unrestrained, it risks displacement and detachment.

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