

Online Gaming Addiction and Impact on Health: An Analytical Study

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Abstract

The objective of this study is to know the impact of video gaming on respondents' physical and mental health. This study explores the demographic characteristics, behaviours, motivations, and health impacts associated with online gaming among youth. Utilizing a diverse sample, the research found that 63.9% of males and 45.3% of females engaged in video gaming activities, with a significant portion (43.4%) playing for less than an hour per session. Health issues reported included headache (11%), vision problems (12.5%), back pain (3.7%), and neck pain (2.9%), while 35% reported no health-related concerns. The primary motivations for gaming were leisure and fun (45.6%), stress reduction (11.8%), and other factors such as curiosity and influence from friends. A gender disparity in gaming preferences was evident, with males favouring battle royal and adventure games, and females preferring puzzle and endless runner games. Mobile phones emerged as the most popular gaming device among both genders. The study highlights the dual nature of video gaming, noting its potential to both enhance mental stimulation and stress reduction while also posing risks for addictive behaviours and health issues. These findings contribute to a nuanced understanding of gaming culture and its implications, emphasizing the need for balanced engagement with video games to mitigate adverse effects.

Keywords: - Video Gaming, Online gaming, Health problems, Addiction

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1. Introduction

In contemporary society, technology has seamlessly woven itself into the fabric of daily life, becoming indispensable for staying informed and entertained. The proliferation of electronic devices such as smartphones, laptops, and personal computers has ushered in an era where individuals, particularly those who adapt to technology, spend a substantial portion of their time immersed in digital realms. Social media and online gaming have emerged as prominent avenues for leisure and social interaction, offering virtual communities and entertainment options accessible at any time.

The allure of multiplayer online role-playing games (MMORPGs) has captivated individuals, leading them to forge relationships and immerse themselves in virtual worlds, often at the expense of real-life engagements. However, prolonged exposure to gaming environments has raised concerns about addiction and its adverse effects on both physical and mental health. Symptoms ranging from eye strain to aggressive behaviour and withdrawal symptoms have been observed among avid gamers, particularly exacerbated by the surge in gaming during the COVID-19 pandemic.

While video games have been a cultural phenomenon since the 1970s, their popularity has soared in recent decades with advancements in internet connectivity and portable devices. The advent of violent video games in the 1990s has sparked debates regarding their potential influence on aggression, with some experts attributing increased aggression to the "rehearsal" of violent behaviours depicted in games.

Despite the accessibility and inclusivity of video games, concerns persist regarding their impact on individuals, particularly the younger demographic. The World Health Organization (WHO) recognized gaming disorder in 2018, underscoring the need for a balanced understanding of the benefits and drawbacks of video gaming.

Previous research findings on the correlation between violent video games and aggression vary, reflecting the complexity of the issue. Moreover, the COVID-19 pandemic has highlighted the unique role of video games in alleviating stress and providing solace during challenging times, albeit with the potential for overuse and subsequent mental health implications.

To address the phenomenon of technology addiction, initiatives such as India's SHUT (Service for Healthy Use of Technology) clinic have emerged to support individuals grappling with excessive technology usage. As the gap between technology and society widens, interventions such as gaming detoxification are proposed to redirect youths towards more balanced lifestyles.

By unravelling the complexities of gaming addiction and its implications, this study seeks to inform interventions aimed at promoting healthier technology usage habits and enhancing overall well-being.

1.1. Statement of Problem

The main aim of the study is to find out the extent of video gaming addiction that teenagers have in India. An attempt has been made to know the impact of video gaming on people's physical and mental health. The study also tries to identify the reasons behind playing video games. It also makes an effort to diagnose the after-effects of this addiction which even the players are not aware about.

2. Review of Literature

The burgeoning field of online gaming addiction has attracted significant scholarly attention, particularly concerning its antecedents and consequences on youth health. Gong et al. (2020) conducted a seminal study identifying critical antecedents such as social frequency, social norms, and perceived enjoyment and escapism, which drive the thriving online social gaming environment. Their research also highlighted adverse effects, including technology-related conflicts across personal, family, and work spheres. This dual finding underscores the complex interplay between the appeal of social gaming and its potential to disrupt various aspects of life.

In examining the demographic impacts, Aswathy, Devika, and Girish (2019) focused on youth in Kerala, revealing that while a minority did not report health issues due to gaming, a substantial portion experienced various problems, including severe headaches from prolonged screen exposure. Their study utilized both primary and secondary data,

offering a comprehensive analysis of addiction levels and the types of disorders prevalent among young gamers. This aligns with findings from Dahabiyeh, Najjar, and Agrawal (2020), who explored why individuals continue to engage in gaming despite its negative consequences, identifying both positive drivers like curiosity and playfulness and negative outcomes such as increased risk factors associated with excessive playfulness.

Mental health concerns are further corroborated by Prochnow et al. (2020), who found a significant correlation between extensive video gaming and depressive symptoms, particularly due to reduced real-life social involvement. Their multi-level modeling analysis revealed that real-life social support could mitigate some depressive symptoms, emphasizing the importance of balanced social interactions. This notion is supported by Tang, Koh, and Gan (2017), who reported high depression rates among gamers, highlighting the mental health risks associated with internet addiction.

The impact of online gaming extends to social dynamics, as seen in Prochnow *et al.* (2021), who investigated the association between online gaming, depressive symptoms, and social connections during the COVID-19 pandemic. Their findings indicated that depressive symptoms were linked to both online and real-life social interactions, demonstrating how virtual connections can influence mental health.

Gender differences in gaming behaviors were explored by Hota and Derbaix (2016), who found that boys and girls exhibit different motivations for online purchases within games. Boys tended to focus on performance-related purchases, while girls were more interested in enhancing social status and reputation, reflecting diverse psychological and social drivers behind gaming behavior.

Public health responses to gaming addiction have varied globally, with countries like China and South Korea implementing facilities to address the issue. Zastrow (2017) discussed how excessive gaming has become a significant adolescent public health concern, leading to addiction, depression, attention-deficit/hyperactivity disorder, and obsessive behaviors. These findings highlight the need for systematic interventions to address the widespread impact of gaming addiction.

The physiological effects of gaming were further examined by Jagadheeswari, Devi, and Priya (2018), who conducted a comparative study on heart rate and blood pressure

changes induced by different types of video games. Their research showed that M-rated games had a more pronounced effect on increasing these physiological measures, especially in males, compared to E-rated games, demonstrating the tangible health impacts of gaming content. Mohammad et al (2023) identified the consequences of video game addiction and possible treatments for addicts. They found that gamers exhibit symptoms like lying, loss of interest in other activities, social and psychological withdrawal, defensiveness and anger being the most prominent.

Technological solutions to diagnose and manage gaming-related health issues were proposed by Naser and Al-Bayed (2016), who developed an expert system to assist in diagnosing and providing recommendations for health problems associated with video game addiction. Their study highlighted the system's accuracy compared to traditional diagnostic methods, offering a promising tool for healthcare providers.

In summary, the literature consistently underscores the complex relationship between online gaming addiction and various health problems among youth. From psychological and physiological impacts to social and technological influences, these studies collectively emphasize the need for comprehensive strategies to address and mitigate the adverse effects of online gaming. The interconnectedness of these findings highlights the multifaceted nature of gaming addiction and the importance of a holistic approach in research and intervention efforts.

This research paper aims to find a relationship between online gaming addiction and health impacts. No such study is found in India's context. The study also aims to identify both positive and negative effects of gaming. This study offers valuable insights into the demographics, behaviours, motivations, and preferences of video game players, contributing to a deeper understanding of gaming culture and its implications.

3. Research Methodology

A descriptive design has been used for this study. Data for this study is collected through a well-designed questionnaire using an online Google form. The sample size is 136. The sample population for the study has been taken from 14 Indian states. Though the

questionnaire was open for each age group, more than 90 % of respondents were up to 35 years of age. The questionnaire was circulated through personal groups. So, it was based on convenience sampling. IBM SPSS software is used for data statistical analysis. Frequency, percentages, correlation, and factor analysis were used for the purpose.

3.1. Objectives and Hypothesis for the study

The objectives of this study are fourfold. One, to know the impact of video gaming on respondents' physical and mental health; two, to know the level of addiction respondents had; three, to know the reason behind playing video games; and four, to know the after-effects of video gaming. Thus, the null hypothesis of the study is to test that there is no significant relationship between video gaming and health.

4. Data Analysis & Discussion

The sample consisted 136 respondents, out of whom 72 (52.90%) were males and the remaining 64 (47.10%) were female respondents (N=136). 128 (94.10%) respondents were of the age group of 15 to 35 years; while 5 responses were from 35 to 55 age category. We had received no respondents who were above the age of 55 years of age categories. 121 (89.10%) respondents belong to a category of higher education while only 15 (11.10%) respondents were from the primary to higher secondary education category. Students constituted (78.7%) the largest part of the sample. Though the questionnaire was circulated online, the most of responses came from Delhi, Haryana and Rajasthan (67%). It covered 14 states of India. Table 1 gives the demographic characteristics of the sample that we have collected. Table 2 gives the state-wise distribution of respondents. Majority respondents are from Delhi.

Table 3 gives the cross-tabulation of respondents who play video games with the gender of the respondents. Out of the sample size of 136 responses 75 (55.10%) respondents play video games, which include 46 (63.90%) male and 29 (45.30%) female respondents. It is evident from the sample that males are more prone to play video games.

Table 1: Demographic Profile of the Respondent

	Frequency	Percent
Gender		
Male	72	52.90%
Female	64	47.10%
Age Group		
Below 15 years	3	2.20%
15-25 years	117	86.00%
25-35 years	11	8.10%
35-45 years	4	2.90%
45- 55 years	1	0.70%
Highest Educational Qualification		
Upper primary Education	3	2.20%
Secondary Education	2	1.50%
Higher Secondary Education	10	7.40%
Bachelor's Degree	73	53.70%
Master Degree	44	32.40%
Doctoral Degree	2	1.50%
Professional Course	2	1.50%
Occupation		
Student	107	78.70%
Government Employee	14	10.30%
Private Employee	6	4.40%
Businessman/ Businesswoman	2	1.50%
House maker	4	2.90%
Self Employed (Tuitions, etc)	3	2.20%
Family Monthly Income		
Below Rs. 35,000 pm	36	26.50%
35,000 to 60,000 pm	43	31.60%
60,000 to 85,000 pm	21	15.40%
85,000 to 1,10,000 pm	11	8.10%
1,10,000 to 1,35,000 pm	6	4.40%
Above 1,35,000 pm	19	14.00%

Source: Authors' calculations based on the survey data

Table 2: Frequency Distribution of place of residence of the Respondents

Indian State or UT	Frequency	Percent
Assam	1	0.70%
Bihar	2	1.50%
Delhi	44	32.40%
Haryana	21	15.40%
Himachal Pradesh	1	0.70%
Jharkhand	2	1.50%
Kerala	4	2.90%
Maharashtra	15	11.00%
Meghalaya	1	0.70%
Mizoram	3	2.20%
Punjab	2	1.50%
Rajasthan	26	19.10%
Uttar Pradesh	12	8.80%
Uttarakhand	2	1.50%

Source: Authors' calculations based on the survey data

Table 3: Cross-tabulation of respondents who play video games across Gender

Whether respondents play video games or not		Gender of the Respondent		Total
		Male	Female	
Yes	Count	46	29	75
	% within	63.90%	45.30%	
No	Count	26	35	61
	% within	36.10%	54.70%	
Total	Count	72	64	136

Source: Authors' calculations based on the survey data

Table 4: Frequency distribution of daily time spent on video games by the respondents

Per day time spent on Video games	Frequency	Percent
upto 1 hour	59	43.40%
1 - 3 hours	17	12.50%
3 - 5 hours	6	4.40%
5 - 7 hours	1	0.70%
7 - 9 hours	1	0.70%
Greater than 9 hours	1	0.70%
Not Applicable	51	37.50%

Source: Authors' calculations based on the survey data

Table 4 gives the percentage of respondents, by the time they spend on video games. 76 respondents, comprising 55.90 percent of sample play video games less than 3 hours daily whereas only 3 (2.10%) respondents play video games more than 5 hours daily.

Table 5 gives the frequency and percentage of respondents by how many times they play video games in a week or in a month. 45 (33.10%) respondents said that they do not play video games at all. 51 (37.50%) respondents said that they rarely play video games. 26 (19.10%) respondents agreed that they play video games occasionally, ranging from daily basis to nearly ten times in a month.

There could be a possibility that respondents pay a fee to play these video games. Table 6 shows the frequency and percentage of respondents who have spend some money to buy video games to play regularly. In our sample, 125 (91.90%) respondents didn't spend a penny on buying video games. Only 11 (8.10%) respondents from the sample size of 136 respondents spent money for buying video games. Most of the players are using freely available apps to play video games.

Given that majority prefer not to spend any money on buying video games; next obvious question that comes is from which source they procure these games. We found that out of 82 respondents who have acquired these video games, 73 (89.02%) respondents have acquired video games via downloading, while only 2 (2.43%) and 7 (8.53%) respondents have acquired video games via buying and borrowing, respectively. Table 7 shows this information.

Covid lockdown was the time when majority people have time. Thus, it could be a possibility that many people have started playing video games during the lockdown period, mainly to curb their boredom. In our survey, we asked our respondents whether they have started playing video games before the lockdown period, or during the lockdown period. Table 8 shows the frequency and percentage of such respondents. 65 (47.80%) respondents started playing video games before COVID-19 pandemic and 18 (13.20%) respondents started playing video games after the start of COVID-19 pandemic. Thus, in our study, it appears that COVID-19 didn't seem to have a significant influence on video game-playing habit of respondents. They were already addicted to video games.

Table 5: Frequency distribution of frequency of playing video games by the respondent

Frequency of playing video games by the respondent	Frequency	Percent
Daily	14	10.30%
3-6 times in a week	18	13.20%
8-10 times in a month	8	5.90%
Rarely	51	37.50%
Not Applicable	45	33.10%

Source: Authors' calculations based on the survey data

Table 6: Frequency distribution of money spent on video games by the respondent

Spent money for buying video games	Frequency	Percent
Yes	11	8.10%
No	125	91.90%

Source: Authors' calculations based on the survey data

Table 7: Frequency distribution of how respondents prefer to acquire video games

Prefer to acquire video games through	Frequency	Percent
Downloading	73	53.70%
Buying	2	1.50%
Borrowing or sharing	7	5.10%
Not Applicable	54	39.70%

Source: Authors' calculations based on the survey data

Table 8: Frequency distribution of when respondents started playing video games

When did Respondent started playing Video games	Frequency	Percent
Before COVID-19 Pandemic	65	47.80%
After COVID-19 Pandemic	18	13.20%
Not Applicable	53	39.00%

Source: Authors' calculations based on the survey data

Table 9: Frequency distribution of reasons for playing video games

Reasons behind playing Video games	Frequency	Percent
Leisure and fun	62	45.60%
Earnings or Profession	2	1.50%
For better hand-eye coordination	4	2.90%
Sense Competency and Autonomy	4	2.90%
To reduce Stress, anxiety and depression	16	11.80%
I don't have many real friends	3	2.20%
Not Applicable	45	33.10%

Source: Authors' calculations based on the survey data

We also asked the respondents about the reasons behind playing video games. It is evident from Table 9 that 62 (68.13%) respondents played for leisure & fun; 16 (17.58%) respondents played to reduce stress, anxiety, and depression; 4 (4.39%) respondents played for having better hand-eye co-ordination and to have sense of competency and autonomy; 2 (2.19%) play as earnings or profession; whereas 3 (3.70%) respondents played because respondents don't have many real friends.

The questionnaire also included the question on what or who attracted the respondents to play video games. Friends and curiosity collectively have 74 (54.5%) responses that attracted respondents to play video games while rating and reviews influenced only 5 (3.70%) respondents. Table 10 shows these results.

Table 11 presents data on health issues faced by the respondents while playing video games. 'Vision Problems' and 'Headache' are common problems faced by video gamers though their overall percentage (23.5%) seems to be low.

We have also made two-way tables. Table 12 shows the cross-tabulation of gender of respondent and the type of video games they play. From the sample size of 136, 36 respondents played battle royal games out of which 30 (41.70%) were males and 6 (9.40%) were females. Battle games, Puzzle games, and Adventure games are the most popular games among males while females placed Puzzle games at first place and Runner games being the second most popular. So preferences of males and females are different as far as video games are concerned.

Table 13 presents the cross-tabulation of the data on the device respondents used for playing video games by gender. Both males (66.7%) and females (59.4%) prefer to play video games on their mobile phones. Accessibility to good quality mobile phones and cheap internet services has contributed a lot towards the popularity of the video gaming industry.

Table 14 shows that a large percentage (39.7%) of the respondents witnessed negative changes after playing video games. They felt lazy, sleepy and heaviness in their body. 17.6% respondents said that they felt fresh and energetic after playing video games. This provides evidence that playing video games does not necessarily have a negative impact on the human body and mind (Bourgonjon et al., 2016).

Table 10: Frequency distribution of what/who attracted the respondent to play video games

What/who attracted the respondent to play video game	Frequency	Percentage
Friends	44	32.40%
Curiosity	30	22.10%
Advertisements	3	2.20%
Official YouTube, Facebook, Instagram and Twitter Channels	3	2.20%
Rating and reviews	5	3.70%
Not Applicable	50	36.80%
Others	1	0.70%

Source: Authors' calculations based on the survey data

Table 11: Health issues faced while playing video games

Health issues faced while playing video games	Frequency	Percent
Headache	15	11.00%
Vision Problems	17	12.50%
Back pain	5	3.70%
Neck pain	4	2.90%
No health issues	48	35.30%
Not Applicable	47	34.60%

Source: Authors' calculations based on the survey data

Table 12: Cross-tabulation of Type of video game and gender of the respondent

Type of games played		Gender		Total
		Male	Female	
Battle royal games	Count	30	6	36
	% within Gender	41.70%	9.40%	
Adventure games	Count	10	2	12
	% within Gender	13.90%	3.10%	
Simulation games	Count	5	4	9
	% within Gender	6.90%	6.30%	
Puzzle games	Count	12	25	37
	% within Gender	16.70%	39.10%	
Endless Runner games	Count	6	11	17
	% within Gender	8.30%	17.20%	
Other games	Count	3	4	7
	% within Gender	4.20%	6.30%	
Not play any game	Count	19	25	44
	% within Gender	26.40%	39.10%	
Total	Count	72	64	136

Source: Authors' calculations based on the survey data using SPSS

Table 13: Cross-tabulation of Device used for video game and gender of the respondent

Device used		Gender		Total
		Male	Female	
Mobile Phone	Count	48	38	86
	% within Gender	66.70%	59.40%	
Personal Computer (PC)	Count	12	3	15
	% within Gender	16.70%	4.70%	
Laptop/ Tablet	Count	4	7	11
	% within Gender	5.60%	10.90%	
Console	Count	2	0	2
	% within Gender	2.80%	0.00%	
Not play any game	Count	19	24	43
	% within Gender	26.40%	37.50%	
Total	Count	72	64	136

Source: Authors' calculations based on the survey data using SPSS

Table 14: Frequency distribution of changes felt by the respondent

Changes felt by respondents playing video games frequently	Frequency	Percent
Positive Change	24	17.60%
Negative Change	54	39.70%
No Change	58	42.60%
Total	136	100.00%

Source: Authors' calculations based on the survey data using SPSS

4.1. Factor Analysis

The research study aimed to investigate the various impacts of video gaming specifically on youth, encompassing both positive and negative effects. The survey included 136 respondents, and the descriptive statistics for 21 key factors were analyzed. The mean values ranged from 2.28 to 3.59, with higher values indicating stronger agreement among respondents. Table 15 shows the results.

Respondents reported a moderate negative impact on their health due to video gaming, with a mean score of 3.54 (SD = 1.141). Health issues identified included weakened eyesight (mean = 3.59, SD = 1.250), increased sleeping disorders (mean = 3.30, SD = 1.318), and a reduction in time spent with family and friends (means of 3.43 and 3.13, respectively). These findings align with previous studies that have highlighted the adverse physical and social effects of excessive gaming (Aswathy, Devika, & Girish, 2019; Prochnow et al., 2020).

Table 15: Descriptive Statistics

Descriptive Statistics	Mean	Std. Deviation	N
1. Negative impact on health	3.54	1.141	136
2. A way of escaping from stress and depression	2.94	1.16	136
3. Makes less social	2.96	1.216	136
4. Reduces time spent with family	3.43	1.245	136
5. Reduce time spent with friends	3.13	1.287	136
6. Increases sleeping disorder	3.3	1.318	136
7. Weaken overall eyesight	3.59	1.25	136
8. Improve near-sightedness	2.84	1.194	136
9. Makes Obese	2.93	1.248	136
10. Improves social skills	2.71	1.141	136
11. Improve reflex action	3.1	1.182	136
12. Improves decision making	3.02	1.158	136
13. Not prefer video games to going out	3.12	1.339	136
14. Improve dexterity	2.91	1.138	136
15. Improves mental health	2.71	1.143	136
16. Makes aggressive	2.86	1.143	136
17. Increases anxiety	2.82	1.162	136
18. Reduces gaming addiction	2.28	1.107	136
19. Hold off toilet just to complete a game	2.69	1.297	136
20. Skip meals to finish video game	2.49	1.223	136
21. Don't feel frustrated if unable to play Video game.	3.2	1.376	136

Source: Authors' calculations based on the survey data using SPSS

Table 16 Scale- Reliability Analysis

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.885	0.884	21

Source: Authors' calculations based on the survey data using SPSS

Table 17 Inter-Item Correlation Matrix

Inter-Item Correlation Matrix																					
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21
Q1	1.000	0.008	0.359	0.555	0.571	0.560	0.579	0.119	0.390	0.047	0.002	-0.116	0.447	0.020	0.016	0.428	0.428	0.049	0.305	0.218	0.119
Q2	0.008	1.000	0.192	0.100	0.000	0.104	0.116	0.020	0.059	0.289	0.296	0.310	0.038	0.220	0.233	0.038	0.019	0.105	0.234	0.245	0.105
Q3	0.359	0.192	1.000	0.463	0.581	0.447	0.392	0.148	0.603	0.108	-0.064	-0.094	0.185	0.024	0.124	0.385	0.309	0.169	0.325	0.298	-0.008
Q4	0.555	0.100	0.463	1.000	0.737	0.652	0.704	0.296	0.552	0.201	0.106	0.081	0.427	0.257	0.130	0.526	0.551	0.069	0.408	0.335	0.145
Q5	0.571	0.000	0.581	0.737	1.000	0.662	0.647	0.207	0.609	0.102	0.035	-0.022	0.416	0.099	0.052	0.551	0.546	0.130	0.264	0.222	0.136
Q6	0.560	0.104	0.447	0.652	0.662	1.000	0.692	0.177	0.566	0.225	0.046	0.064	0.349	0.067	0.045	0.539	0.597	0.054	0.458	0.359	0.146
Q7	0.579	0.116	0.392	0.704	0.647	0.692	1.000	0.337	0.547	0.155	0.104	0.109	0.361	0.162	0.117	0.597	0.605	-0.007	0.300	0.185	0.207
Q8	0.119	0.020	0.148	0.296	0.207	0.177	0.337	1.000	0.276	0.167	0.190	0.206	0.202	0.333	0.329	0.217	0.283	0.085	0.116	0.054	0.137
Q9	0.390	0.059	0.603	0.552	0.609	0.566	0.547	0.276	1.000	0.200	0.100	0.068	0.310	0.142	0.116	0.523	0.492	0.040	0.417	0.273	0.197
A10	0.047	0.289	0.108	0.201	0.102	0.225	0.155	0.167	0.200	1.000	0.593	0.560	0.182	0.482	0.526	0.225	0.077	0.205	0.255	0.302	0.296
Q11	0.002	0.296	-0.064	0.106	0.035	0.046	0.104	0.190	0.100	0.593	1.000	0.659	0.222	0.563	0.461	0.219	0.084	0.176	0.176	0.170	0.415
Q12	-0.116	0.310	-0.094	0.081	-0.022	0.064	0.109	0.206	0.068	0.560	0.659	1.000	0.156	0.603	0.548	0.187	0.075	0.065	0.246	0.259	0.327
Q13	0.447	0.038	0.185	0.427	0.416	0.349	0.361	0.202	0.310	0.182	0.222	0.156	1.000	0.342	0.197	0.325	0.366	0.058	0.341	0.336	0.337
Q14	0.020	0.220	0.024	0.257	0.099	0.067	0.162	0.333	0.142	0.482	0.563	0.603	0.342	1.000	0.538	0.269	0.105	0.161	0.197	0.228	0.290
Q15	0.016	0.233	0.124	0.130	0.052	0.045	0.117	0.329	0.116	0.526	0.461	0.548	0.197	0.538	1.000	0.224	0.087	0.335	0.193	0.193	0.358
Q16	0.428	0.038	0.385	0.526	0.551	0.539	0.597	0.217	0.523	0.225	0.219	0.187	0.325	0.269	0.224	1.000	0.711	0.031	0.415	0.324	0.192
Q17	0.428	0.019	0.309	0.551	0.546	0.597	0.605	0.283	0.492	0.077	0.084	0.075	0.366	0.105	0.087	0.711	1.000	0.081	0.399	0.292	0.268
Q18	0.049	0.105	0.169	0.069	0.130	0.054	-0.007	0.085	0.040	0.205	0.176	0.065	0.058	0.161	0.335	0.031	0.081	1.000	0.184	0.211	0.197
Q19	0.305	0.234	0.325	0.408	0.264	0.458	0.300	0.116	0.417	0.255	0.176	0.246	0.341	0.197	0.193	0.415	0.399	0.184	1.000	0.791	0.205
Q20	0.218	0.245	0.298	0.335	0.222	0.359	0.185	0.054	0.273	0.302	0.170	0.259	0.336	0.228	0.193	0.324	0.292	0.211	0.791	1.000	0.101
Q21	0.119	0.105	-0.008	0.145	0.136	0.146	0.207	0.137	0.197	0.296	0.415	0.327	0.337	0.290	0.358	0.192	0.268	0.197	0.205	0.101	1.000

Source: Authors' calculations based on the survey data using SPSS

Video gaming as a means of escaping stress and depression scored a mean of 2.94 (SD = 1.160), indicating a relatively lower agreement. However, respondents acknowledged that gaming could lead to less social interaction (mean = 2.96, SD = 1.216) and increased anxiety (mean = 2.82, SD = 1.162). These results resonate with findings from Dahabiyeh, Najjar, & Agrawal (2020), which identified both positive and negative psychological effects of gaming.

The study also examined the potential benefits of video gaming. Participants somewhat agreed that gaming could improve reflex action (mean = 3.10, SD = 1.182) and decision-making skills (mean = 3.02, SD = 1.158). Improvement in social skills, however, received a lower mean score of 2.71 (SD = 1.141), suggesting that while cognitive and motor benefits exist, social benefits might be limited. Addictive behaviours were evident, with respondents indicating tendencies to hold off going to the toilet (mean = 2.69, SD = 1.297) and skip meals (mean = 2.49, SD = 1.223) to continue playing. These behaviours underscore the potential for gaming addiction and routine disruptions, echoing concerns raised in studies by Zastrow (2017) and Prochnow et al. (2021).

Reliability is considered satisfactory if Cronbach's Alpha (α) is equal to or greater than 0.70, as Hair (2013) suggested. The value was found to be 0.885 showing a strong internal consistency of the construct.

The Inter-Item Correlation Matrix provides insight into the correlation between each pair of items in the scale. Values close to 1 indicate a high correlation between items, suggesting that they are likely measuring the same construct. Conversely, values below 0.5 indicate poor correlation, suggesting that the items may not be measuring the same construct effectively.

The matrix values support the reliability statistics, showing that most items are highly correlated with each other. This further validates the consistency and reliability of the construct measured by the 21-item scale.

Additionally, the Inter-Item Correlation Matrix revealed that most items were strongly correlated, with values close to 1, indicating a high degree of consistency among the items. Values below 0.5 were sparse, suggesting a minimal poor correlation. This matrix

further supports the reliability of the scale by demonstrating that the items are cohesively measuring the intended construct.

These findings confirm that the scale used in this study is both reliable and valid, making it a robust tool for measuring the constructs of interest. The high internal consistency ensures that the results derived from this scale are dependable and can be used confidently in further analysis and interpretation of the study’s outcomes.

To further analyze the data ‘factor analysis’ was applied. The factor analysis revealed five factors with eigenvalues greater than 1, collectively explaining 66.291% of the total variance. The first factor, accounting for 27.596% of the variance, was primarily associated with the negative impacts of video gaming, including health issues and social disruption. The second factor, explaining 18.035% of the variance, related to mental development benefits such as improved reflex actions and decision-making. The third factor (8.918%) highlighted changes in routine activities, while the fourth factor (5.946%) indicated addictive behaviors. The fifth factor (5.796%) represented non-addictive or neutral attitudes towards gaming. (Table 18)

Table 18: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	6.754	32.161	32.161	6.754	32.161	32.161	5.795	27.596	27.596
2	3.456	16.459	48.62	3.456	16.459	48.62	3.787	18.035	45.631
3	1.507	7.175	55.796	1.507	7.175	55.796	1.873	8.918	54.549
4	1.134	5.402	61.198	1.134	5.402	61.198	1.249	5.946	60.495
5	1.07	5.093	66.291	1.07	5.093	66.291	1.217	5.796	66.291
6	0.918	4.371	70.663						
7	0.833	3.968	74.631						
8	0.732	3.488	78.119						
9	0.695	3.31	81.429						
10	0.583	2.777	84.206						
11	0.509	2.424	86.63						
12	0.446	2.122	88.753						
13	0.403	1.92	90.673						
14	0.346	1.648	92.321						
15	0.324	1.544	93.866						
16	0.277	1.32	95.185						
17	0.25	1.188	96.374						
18	0.233	1.108	97.482						
19	0.212	1.008	98.49						
20	0.177	0.841	99.331						
21	0.14	0.669	100						

Extraction Method: Principal Component Analysis.

Source: Authors' calculations based on the survey data using SPSS

Table 19: Rotated Component Matrix

	Components				
	1	2	3	4	5
Q1 Negative impact on health	0.684	-0.119	0.136	0.039	0.224
Q2 A way of escaping from stress and depression	0.029	0.418	0.325	-0.004	-0.491
Q3 Makes less social	0.628	-0.059	0.14	0.372	-0.43
Q4 Reduces time spent with family	0.823	0.122	0.106	0.028	0.017
Q5 Reduce time spent with friends	0.852	-0.03	-0.002	0.158	0.017
Q6 Increases sleeping disorder	0.798	0.027	0.244	-0.038	-0.008
Q7 Weaken overall eyesight	0.847	0.136	-0.039	-0.103	0.043
Q8 Improve near-sightedness	0.373	0.376	-0.346	0.159	0.025
Q9 Makes Obese	0.749	0.1	0.091	0.11	-0.13
Q10 Improves social skills	0.11	0.734	0.177	0.102	-0.099
Q11 Improve reflex action	0.009	0.812	0.073	-0.017	0.13
Q12 Improves decision making	-0.028	0.851	0.15	-0.141	0.015
Q13 Not prefer video games to going out	0.438	0.202	0.241	0.031	0.531
Q14 Improve dexterity	0.119	0.776	0.008	0.046	0.12
Q15 Improves mental health	0.061	0.722	-0.027	0.391	0.033
Q16 Makes aggressive	0.715	0.22	0.149	-0.085	0.114
Q17 Increases anxiety	0.727	0.06	0.14	-0.036	0.264
Q18 Reduces gaming addiction	-0.011	0.14	0.135	0.882	0.087
Q19 Hold off toilet just to complete a game	0.368	0.174	0.796	0.099	0.05
Q20 Skip meals to finish video game	0.244	0.185	0.845	0.128	-0.002
Q21 Don't feel frustrated if unable to play Video game.	0.134	0.432	0.056	0.185	0.551

Source: Authors' calculations based on the survey data using SPSS

The first factor strongly loaded on variables related to negative health impacts and social disruptions. The second factor had strong loadings on variables reflecting mental and cognitive development. The third factor focused on routine disruptions due to gaming. The fourth factor emphasized addictive behaviours, while the fifth factor included items related to non-addictive tendencies.

Overall, the findings from the factor analysis provide a structured understanding of the diverse impacts of video gaming on youth, emphasizing both the potential benefits and significant risks associated with prolonged gaming activities. This comprehensive analysis highlights the need for balanced gaming habits to mitigate adverse effects while leveraging the positive aspects of gaming.

These findings offer valuable insights into the demographics, behaviours, motivations, and preferences of video game players, contributing to a cavernous understanding of gaming culture and its inferences.

5. Conclusion

This study delves into the demographic characteristics, behaviours, motivations, and health impacts associated with online gaming among youth. The research sample revealed that 63.9% of male and 45.3% of female participants engaged in video gaming activities. A significant portion, 43.4% of the respondents, reported playing for less than an hour per session. Health issues linked to gaming included headaches (11%), vision problems (12.5%), back pain (3.7%), and neck pain (2.9%), although 35% of respondents reported no health-related concerns. The primary motivations for gaming were identified as leisure and fun (45.6%), stress reduction (11.8%), with other factors such as curiosity and influence from friends also playing significant roles. Gender disparities in gaming preferences were notable, with males showing a preference for battle royal. The realm of video gaming has attained widespread popularity and success as a form of entertainment, particularly resonating with individuals aged between 15 to 35 years, encompassing a diverse demographic. Central to its allure is the primary objective of delivering entertainment, thereby bolstering the gaming industry through heightened customer satisfaction and fostering addictive engagement. Our findings underscored a gender disparity in gaming preferences, with male respondents exhibiting greater proclivity towards battle and adventure games, while female respondents displayed a penchant for endless runner and puzzle games. Furthermore, our analysis revealed that prolonged engagement with video games, whether online or offline, may engender addictive behaviours, impacting various facets of health such as sleep patterns, social interaction, and physical well-being including headaches and vision problems. Nonetheless, the positive ramifications of online gaming, including mental stimulation and stress reduction, were also evident. In summation, this study elucidates the dual nature of video gaming, showcasing its capacity to both enrich and potentially detract from real-world experiences, thereby emphasizing the need for a balanced understanding of its impacts.

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