

Exploring the Psychological Impact of Online Gaming on Adolescents: The Role of Emotional Intelligence in Gaming Addiction

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ABSTRACT

In every region of the globe, addiction to the internet is a significant issue. The issue of addiction to the internet among teenagers may be a significant crisis that is equivalent to addiction to drugs in terms of the impact it has on personal life, family relationships, social conduct, and academic status. People who have a greater emotional intelligence are less likely to get hooked to the internet, according to scientific research. In spite of this, there is ongoing discussion on the nature and intensity of this relationship. The objective of this research is to explore the relationship between the level of emotional intelligence and the usage of online games among teenagers, as well as the relationship between emotional intelligence and the level of gaming addiction in relation to gender. Research with a cross-sectional design was carried out in the schools in the Kanpur district between the months of March and April 2023, with a total sample of 471 adolescents between the ages of 10 and 19 years old. The Simple Random Sampling technique is used in order to choose both the educational institutions and the students themselves. TEIQue-SF, which is a 30-item emotional intelligence scale, and the Game Addiction Scale for Adolescent, which was developed by Jeroen S. Lemmens and colleagues, were the standard instruments that were used. The research was carried out on 471 youngsters ranging in age from 10 to 19. On the scale of potential scores for gaming addiction, the lowest possible score was 21, and the highest possible score was 105. The lowest possible score for emotional intelligence was 30, while the maximum possible score for emotional intelligence was at 150. The differences between males and females in emotional intelligence and gaming addiction were not statistically significant ($p > 0.05$). Over the course of the study, it was seen that there existed a statistically significant link between tolerance and sociability, mood modulation and self-control, and relapse and sociability ($p < 0.05$). An excessive amount of time spent in front of a computer and excessive use of the internet may have negative effects on various aspects of their lives, including social, functional, physical, and psychological aspects. Additionally, it may cause them to neglect other important priorities, which puts them at risk for a variety of morbidities and, in the worst-case scenario, death. A combination of

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Published: 17 October 2026

DOI: <https://doi.org/10.70558/IJSSR.2026.v3.i5.301335>

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pleasant emotional and cognitive experiences, as well as the absence of depression, is what constitutes happiness.

Keywords: *Emotions, Gaming addiction, Adolescent, Internet, Emotional intelligence.*

INTRODUCTION

In the eleventh version of the International Classification of Diseases (ICD-11), the World Health Organization (WHO) has recognised gaming disorder as an illness that poses a hazard to the health and well-being of the general population. Based on the World Health Organization's definition, gaming disorder is characterised by "impaired control over gaming, increasing priority given to gaming, and continuation of gaming despite the occurrence of negative consequences!" As a result, Internet Gaming Disorder (IGD) is a condition that may have significant adverse effects on people, including but not limited to depression, anxiety, stress, psychosocial issues, and a decrease in psychological well-being. As a result, it is important to pay attention to and do further research on this topic. Internet use has skyrocketed all around the globe in recent years. Similar to other items that have emerged in this new period, communications are also a source of anxiety. It is both damaging and clear, to put it another way. Online games are among the most popular forms of entertainment for children, teenagers, and young adults. China, the United States of America, Japan, South Korea, Germany, the United Kingdom, France, Spain, Canada, and Italy are among the countries that have the greatest revenue growth rates. It is projected that the worldwide growth rate for revenue is 8.5%. When it comes to gaming addiction, adolescence is not an exception to the general perception that this is the period of life in which a person is most susceptible to developing an addiction. By winning games, meeting friends and connecting with them in virtual reality, having a feeling of belonging, living in the metastate, and reducing stress, teenagers have the opportunity to have a sense of accomplishment through the use of online gaming. An excessive amount of time spent playing video games has been proven to interfere with the normal growth and development of teenagers, which in turn leads to behavioural and social maladjustment [1]. There is a correlation between excessive usage of online games by adolescents and a variety of mental issues, including despair, loneliness, anxiety, and aggressive behaviour. The emotions we experience have a significant impact on the logical ideas and actions we engage in. Emotional competence may be defined as the capacity to recognise and articulate one's own feelings, which is derived from emotional intelligence. It is more beneficial to one's mental health to experience positive feelings rather than negative sentiments since positive emotions serve to mitigate the effects of negative emotions, which ultimately leads to psychological resilience [2].

The tendency is that those who are experiencing favourable emotional states are more socially integrated and healthier.

Objectives of the Study

- In order to determine the extent to which teenagers are addicted to playing video games online.

- To assess the extent to which adolescents possess emotional intelligence. This study aims to examine the levels of emotional intelligence and gaming addiction between males and females.
- The goal of this study is to determine the extent to which emotional intelligence aspects are related to gaming addiction.

Hypothesis

- H0: It has been shown that there is no significant association between emotional intelligence and gaming addiction in teenagers.
- H1: There is a statistically significant association between emotional intelligence and gaming addiction among adolescents.

REVIEW OF LITERATURE

Young (2009) An excessive amount of online gaming has a detrimental impact on emotional stability, academic accomplishment, and interpersonal connections, according to research that was conducted on the addiction and treatment difficulties that are associated with online gaming experienced by teenagers. According to the findings of the research, adolescents who had difficulty controlling their emotions were more likely to develop an online gaming problem. As an additional point of interest, the author mentioned that excessive gaming might lead to increased psychological discomfort and decreased social contact among teenagers [3].

Kuss and Griffiths (2012) An investigation on the prevalence of addiction to online gaming among children and adolescents was carried out, and the findings revealed that excessive gaming activity was linked to feelings of melancholy, anxiety, loneliness, and a lack of emotional control. According to the findings, teenagers who spend more time playing video games online have a lower emotional quotient and less effective coping abilities than those who play traditional video games. Researchers came to the conclusion that addiction to video games has now become an issue that affects the mental health of teenagers all over the world [4].

Beranuy et al. (2009) research was conducted on the problematic usage of mobile phones and the internet among college students, as well as the function of emotional intelligence. A lower level of emotional intelligence was shown to be associated with an increased likelihood of developing problematic internet usage, as demonstrated by the findings. The findings of the research also shown that emotional intelligence has a substantial relationship with the management of stress, the control of emotions, and psychological well-being, which in turn reduces the likelihood of becoming addicted to the internet [5].

Ko et al. (2009) The brain processes connected to gaming need were researched in persons who were addicted to online gaming, and the findings showed that excessive gaming results in changes to both emotional and cognitive performance. In addition to having poor impulse control, emotional imbalance, and impaired self-regulation abilities, the researchers discovered that teenagers who were addicted to gaming had poor impulse control. Additional findings from

the research revealed that emotional instability and stress may play a significant influence in the development of addictive gaming habits [6].

Pontes et al. (2014) It has been reported that there is a negative association between the many aspects of gaming addiction, such as withdrawal, relapse, mood modulation, emotional intelligence, and psychological wellness. investigated the relationship between online gaming problem and the emotional well-being of teenagers. According to the findings of the research, teenagers who had a greater emotional intelligence demonstrated improved levels of self-control, sociability, and emotional resilience, which in turn reduced the risk that they would acquire an addiction to gaming [7].

MATERIAL AND METHODS

The current research was a cross-sectional investigation that was carried out between March and April of 2023 at schools located in the Kanpur district of Tamilnadu. The participants were teenagers between the ages of 10 and 19 years old. There were six schools chosen using a straightforward random selection method. Each of the two schools has been chosen from the government, private, and government-aided sectors in order to eliminate any possibility of prejudice. A random selection process is used to choose groups of students from each school [8]. Participants in the research are teenagers who have a tendency of playing video games online. On the other side, those who do not have a gaming habit, who have not played any games in the last month, or who are unwilling to take part in the survey are not included in the study.

A. Sample Size Calculation

It was determined that the sample size should be estimated using open-epi software version 3.01, with a confidence interval (CI) of 80%, a power of 90%, and an expected dropout rate of 20%. A percentage of fifty percent was chosen as the hypothesised frequency of the outcome factor in the population. On the basis of this assumption, the absolute level of accuracy was 4%. The final sample comprised 471 adolescents. After being input and coded in Microsoft Excel, the data that was gathered from the research was then extracted and imported into R-Studio. The use of RStudio version 1.2.1093 was used in the analysis of the data. The Mann–Whitney U test and bivariate correlation analyses were conducted.

A p-value of less than 0.05 was considered statistically significant. Every single participant gave their permission after being fully informed.

Statistical analysis

A description of the background characteristics of the population under investigation was provided using frequency and percentage categories. The distributions of gaming addiction and emotional intelligence scores were summarized using selected percentiles. A Mann Whitney U test was used in order to compare the median and interquartile range (IQR) of gaming addiction score and emotional intelligence score across male and female participants. This was done due to the fact that the data did not follow a normal distribution. Bivariate correlations were examined between the gaming addiction score and its dimensions and between the emotional intelligence score and its components. We judged the value of $P < 0.05$ to be statistically

significant. A regression tree was visualised [10] in order to provide a prediction about which aspect of emotional intelligence was more significant in predicting gaming addiction.

Before any data collection was place, consent from the institutional ethics committee was obtained. The informed permission was acquired by both the participants and the school administration.

RESULTS

Standardised questionnaires were used as the research instrument. These questionnaires comprised a gaming addiction scale for teenagers consisting of 21 items and an emotional intelligence scale consisting of 30 items (TEIQue- SF). Table 1 shows that the questionnaire was drawn out in Tamil, which is the local language.

Table 1. Initially, the characteristics of the population under investigation.

Background Characteristics	Category	Frequency	Percentage
Gender	Female	439	93.2%
	Male	32	6.8%
Age Group	≥15 Years	207	43.9%
	>15 Years	264	56.1%
Grade	9th	155	32.9%
	10th	47	10.0%
	11th	170	36.1%
	12th	99	21.0%
Favourite Game	Free Fire	94	20.0%
	Temple Run	63	13.4%
	Candy Crush	45	9.6%
	Subway Surf	42	8.9%
	PUBG	27	5.7%
	Carrom Pool	26	5.5%
	Others	174	36.9%

In 2023, the research was carried out with a total of 471 adolescents ranging in age from 10 to 19 years old. In Table 1, the background characteristics of the children who were the subject of the study are shown. The average age of the children was 15.5 years, with a standard deviation of 1.3. The majority of the children were girls, accounting for 93.2% of the total. The majority of the children were over 15 years old, accounting for 56.1% of the total. 36.1% of

the children were students in grade 11. Table 2 shows that free fire was the game that the majority of the children who were subjected to the study enjoyed playing the most.

Table 2. The second table. Score on the emotional intelligence scale and the percentage of people who are addicted to gaming

Parameter	0.03	0.05	0.25	0.50	0.75	0.95	0.97
Gaming Addiction Score	24	26.5	42	55	63	75	76
Emotional Intelligence Score	78	80	86	90	95	101.5	103

When it came to gaming addiction, the lowest possible score was 21, and the highest possible score was 105. The lowest possible score for emotional intelligence was 30, and the highest possible score was 150. The mean score was somewhere in the middle.

With regard to emotional intelligence, only 25% of children had a score that was higher than 95, and only 25% of children had a score that was higher than 63 for gaming addiction (Table 2).

Table 3. Comparison of gaming addiction score and emotional intelligence score between males and females.

Parameter	Women (n = 439) Median (IQR)	Male (n = 32) Median (IQR)	P-value
Gaming Addiction Score	55 (42, 63)	56 (47, 66.25)	0.217
Emotional Intelligence Score	90 (85, 95)	91 (88, 94.25)	0.400

The results of the study showed that there was no statistically significant difference between males and females in gaming addiction scores or emotional intelligence scores ($p > 0.05$; Table 3).

Table 4. Existence of a correlation between the qualities of emotional intelligence and the characteristics of gaming addiction.

Variables	Emotional Intelligence	Emotionality	Self-control	Wellbeing	Sociability
Gaming Addiction	-0.0313	-0.0663	-0.0722	0.0410	-0.0174
Salience	0.0125	-0.0016	-0.0665	0.0325	0.0329
Tolerance	-0.0575	-0.0116	-0.0359	-0.0048	-0.0985*
Mood Modification	-0.0515	-0.0580	-0.0982*	0.0558	-0.0171

Relapse	-0.0752	-0.0890	-0.0275	0.0261	-0.0976*
Withdrawal	-0.0133	-0.0328	-0.0692	-0.0021	0.0330
Conflict	0.0133	-0.0794	-0.0397	0.0457	0.0242
Problems	0.0174	-0.0471	-0.0191	0.0501	0.0341

All of the connections between tolerance and sociability, mood modification and self-control, and relapse and sociability were shown to be statistically significant ($p < 0.05$). Nevertheless, each of the three significant associations was negative and had a very weak relationship (Figure 1).

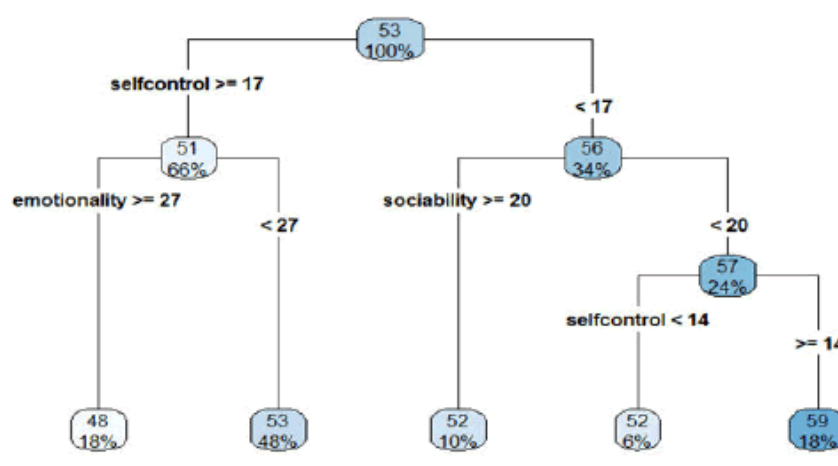


Figure 1: A decision tree for the prediction of gaming addiction.

The decision tree makes use of the following regression model, which is as follows: Addiction to video games is characterised by emotionality, self-control, wellness, and sociability.

Topping the list is the typical score for gaming addiction, which is about 53. When it comes to predicting gaming addiction, self-control is the most significant factor. There is a higher likelihood of addiction to the game among children who scored lower than 17 on the self-control scale.

Emotionality has a role in determining game addiction among children whose self-control score is equal to or more than 17, which means that children with an emotionality score that is lower than 27 are more likely to be addicted to the game; this is in contrast to children whose self-control score is equal to or greater than 17 [12].

In general, children who have a score below 20 on the sociability scale are more likely to be hooked to the game than children who have a score below 17 on the self-control scale. Again, when it comes to children who have a self-control score of less than 17 and a sociability score of less than 20, self-control plays a crucial role. This means that children who have a self-control score of 14 or higher are more likely to be addicted to the game. This is especially true for children who have a self-control score of less than 17 and a sociability score of less than 20.

DISCUSSION

This study evaluated emotional intelligence and online gaming addiction among adolescents in Kanpur district, Uttar Pradesh. It is concluded, on the basis of the findings and results of this study, that there does not appear to be any difference between males and females in terms of emotional intelligence and gaming addiction. Furthermore, there is a correlation between tolerance and sociability, mood modification and self-control, relapse and sociability, with a value that is less than 0.05 indicating that it is statistically significant [13]. According to the findings of a research that was carried out by Christakis and Flisher, Internet Gaming Disorder (IGD) has emerged as the primary cause of criminal behaviour among adolescents [14]. This disorder has the potential to have adverse effects on psychological, social, and occupational functioning. When it comes to salience, withdrawal, tolerance, relapse, and mood modification among the IGD-20 subscales, Pontes et al. found that the subjects in their research scored similarly to those in our study. Based on the research conducted by Robert Kraut and colleagues, emotional management is comprised of two components: stress tolerance and pulse control. In other words, a person with a low score is unable to deal with mental stress and do not have the ability to manage his shocks. According to the findings of our research, twenty-five percent of children had a score of more than sixty-three for gaming addiction, and twenty-five percent of children had a score of more than ninety-five for emotional intelligence [15]. A lack of emotional intelligence is a barrier to healthy interpersonal relationships as well as daily stress, and those who have no retreat and excessively utilise the internet are more likely to experience these feelings. The findings suggest that some adolescents may be at risk of difficulties associated with excessive internet use; however, the present analyses do not establish causation. According to the findings, kids who scored higher on the emotional intelligence test had a lower tendency to get hooked to playing games on the internet. It is important to avoid addiction to online gaming from developing in order to promote both individual and societal connections.

A. Limitations of the Study

- Only the Kanpur district was the subject of the study.
- When using a cross-sectional design, causal conclusions are restricted.
- There is a possibility of response bias in the self-report questionnaire. A greater number of females than males participated in the study.

CONCLUSION

The findings do not indicate a strong association between online gaming addiction and emotional intelligence. Although three correlations were statistically significant, all were negative and very weak. Therefore, the findings should be interpreted cautiously, and the data do not support a conclusion of a strong relationship between the variables. As a result, anticipatory information should be provided to individuals who play online games as well as their parents in order to make them aware of the fact that excessive usage of online games may result in bad feelings. It is necessary to conduct further experiments and conduct analysis on a

more thorough level in order to investigate the factors that lead to pathological internet usage and the impacts that it has.

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