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IMPACT OF ONLINE GAMING ADDICTION AMONG ADOLESCENT IN URBAN SCHOOLS OF LUCKNOW, UTTAR PRADESH

Home Science

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ABSTRACT

This study aimed to assess online gaming addiction impact among adolescents and examine its relationship with socio-demographic factors. Using a purposive random sampling method, data were collected from 200 adolescents aged 15–18 years in urban schools of Lucknow, Uttar Pradesh, through a self-constructed interview schedule and the standardized Assessment Tool for Online Gaming Addiction Among Adolescents – Short Self-Assessment Scale (ATOGAA-SSAS). Results indicated that gender, family type, type of school, and hours spent gaming significantly influenced addiction levels, while age, birth order, and parental supervision did not show significant effects. Boys, students from single-parent families, government schools, and those engaging in more than six hours of gameplay daily reported higher addiction scores. Frequency analysis revealed that 29.5% of respondents were not addicted, 11% moderately addicted, and 5.5% highly addicted. These findings highlight that a considerable proportion of adolescents are at risk of online gaming addiction, emphasizing the need for awareness, structured supervision, and targeted interventions. The study underscores the importance of addressing excessive gaming to mitigate its negative cognitive, emotional, and social impacts among adolescents.

KEYWORDS

Online gaming, adolescents, addiction, random sampling, urban

INTRODUCTION

A game which is played among many participants linked with a network system is termed an online game. Players can be connected to the internet or LAN (Local Area Network) and the network can be either wireless or wired. Bluetooth, WiFi or 4G mobile broadband WiMAX or LTE are a few wireless connections. A massively multiplayer online game (MMOG) is an online game that can support thousands of players simultaneously. Players are connected through a network, allowing them to interact in an extensive virtual gaming world. Like persistent social and material worlds, virtual worlds here are loosely organized through open-ended (fantasy or imaginary) stories, leaving users with a lot of choice about what they can do. In order to interact, a person can control their own digital character, or "avatars" not only with virtual game world objects but also with other players' avatars (**Rosangzuali, 2024**).

The word "video gaming (VG)," sometimes referred to as "digital games" or "e-games," has been defined in a several of ways by different academics. According to some, VG is a technology platform that necessitates a collection of audiovisual resources and particular technical connections, including a computer, tablet devices, television, etc. cell phones. Others view VG as a fun and fulfilling method that employs a motivational approach to promote psychological and physical activities that improve cognitive and psychomotor abilities. (**Abolfotouh, M. A. & Barwani, N. A. 2024**). One of the most significant technological developments of our time, the internet has become an essential component of daily life and is fundamentally altering how we interact with one another. One more, Online gaming has become more accessible than ever because to the quick development of smartphones and high-speed internet, which has increased the number of young people playing online games (**Anderson CA, & Dill KE, 2000**). Online gaming has drawbacks like addiction and disturbed sleep patterns, but it can also have advantages like enhancing hand-eye coordination and problem-solving abilities (**Caplan S, et all 2009**). Children and teenagers who develop an addiction to mobile gaming faces a number of social, psychological, and physical problems. These effects are aggravating psychological and physical injuries such as hostility, obesity, aggressiveness and social isolation. Another aspect of internet gaming disorder is mobile game addiction. (**Laconi S, et al 2017**)

Video game is a persistent and recurrent use of the internet to engage in games, often with other players. Since 2013, the DSM-5 includes a proposal of diagnostic criteria for internet gaming disorder (IGD). However, only five out of 15 of the reviewed articles published after this year used these criteria (**Kim *et al*., 2016; King and Delfabbro, 2016; Na *et al.*, 2017; Yen *et al.*, 2017 & Wang *et al.*, 2018**); three use psychometric questionnaires based on them **(Wadlin *et al.*, 2016; Laconi *et al*., 2017 & Wartberg, *et al.*, 2017**) to assess the problem. According to **APA (2013)**, it is caused by five or more of the following over a 12-month period namely: 1. Preoccupation 2. Withdrawal 3. Tolerance 4. Loss of control 5. Loss of non-gaming interests 6. Gaming despite harms 7. Deception of others about gaming 8. Gaming for escape or mood relief 9. Conflict/interference due to gaming. This indicates that gaming is causing clinically significant impairment or distress before a diagnosis is made, these characteristics and the underlying pattern of online gaming usually take at least a year to manifest; however, if all diagnostic criteria are satisfied and the symptoms are severe, this time frame may be shortened. It could consist with both traditional and internet gaming, albeit the farmer is far more popular. After the symptoms and gaming pattern have persisted for at least a year, a diagnosis can usually be made. The time might be shortened, though, if all diagnostic criteria are satisfied and the symptoms are severe. While both online and offline gaming are covered by gaming disorder, internet gaming is thought to be more popular (**Yadav, 2021**).

MATERIALS AND METHODS

Objectives

To assess online gaming addiction among respondents.

Hypothesis

There is no significant difference in online gaming addiction across different age group.

Locale Of The Study

Sampling Design

Purposive random sampling technique is adopted in sample selection. The respondents comprise respondents belong to Adolescent's age groups belonging to the urban area's schools of selected area of Lucknow, Uttar Pradesh, India. Selection is carried out in two stages; in first stage, for the purpose of data collection, respondent in Lucknow were approached and in second stage, respondents from four zones were selected randomly in Lucknow by using the purposive random selection technique.

Sample Size

The study was will involve 200 Adolescent from school. The adolescent will age between 15-18 year.

Tools And Techniques

Self-constructed and pre-tested interview schedule along with standardized Likert 1 scale questionnaire collected through interview method. The ATOGAA-SSAS scales were designed for online gaming addiction. The ATOGAA-SSAS (Assessment Tool for Online Gaming Addiction Among Adolescents-Short Self-Assessment Scale) is a standardized psychological instrument developed to screen and assess the severity of online gaming addiction specifically among

adolescents. Designed as a brief, self-report tool, the scale focuses on identifying core behavioural, cognitive, and emotional components associated with problematic gaming. It evaluates symptoms such as preoccupation with gaming, loss of control, withdrawal, tolerance, and the negative impact on academic, social, and emotional functioning. The ATOGAA-SSAS is useful in both research and clinical settings, offering a reliable and valid means of early detection and intervention planning. Its concise format allows for efficient administration, particularly in school or community-based mental health programs.

General Proforma And Procedure

The self-assessed general profile is created and circulated among adolescents to collect the general and foundational information from the participant.

The survey method of research is a widely used approach in the social and behavioral sciences that involves collecting data from a large population using structured questionnaires or standardized tools.

The ATOGAA-SSAS (Assessment Tool for Online Gaming Addiction Among Adolescents – Short Self-Assessment Scale)- is a standardized psychological instrument developed to screen and assess the severity of online gaming addiction specifically among adolescents. Designed as a brief, self-report tool, the scale focuses on identifying core behavioural, cognitive, and emotional components associated with problematic gaming. It evaluates symptoms such as preoccupation with gaming, loss of control, withdrawal, tolerance, and the negative impact on academic, social, and emotional functioning. The ATOGAA-SSAS is useful in both research and clinical settings, offering a reliable and valid means of early detection and intervention planning. Its concise format allows for efficient administration, particularly in school or community-based mental health programs.

RESULTS

Difference In Online Gaming Addiction Across Age Groups

The first hypothesis (H_0) stated that there is no significant difference in online gaming addiction across different age groups. The analysis of variance (ANOVA) produced an F-value of 2.923 and a significance level of 0.056. Since this p-value is greater than the conventional alpha level of 0.05, the result is not statistically significant. This indicates that while there is a numerical increase in the mean addiction scores with age (with the 17–18 age group having the highest mean), the differences among age groups (15–16, 16–17, and 17–18) are not strong enough to be considered statistically meaningful. Therefore, the null hypothesis is accepted, suggesting that age does not significantly influence the level of online gaming addiction among adolescents in this sample (table 1).

Difference In Online Gaming Addiction Across Gender Groups

The second hypothesis proposed that there is no significant difference in online gaming addiction between male and female adolescents. The t-test results showed a statistically significant difference between boys and girls, with a p-value of 0.001, which is less than 0.05. Boys reported a notably higher mean addiction score (M = 5.90, SD = 6.66) compared to girls (M = 4.28, SD = 4.56). This indicates that gender plays a significant role in online gaming behaviour among adolescents, with males being more prone to addictive patterns of play. Consequently, the null hypothesis is rejected, and it is concluded that gender significantly affects online gaming addiction (table 1).

Difference In Online Gaming Addiction Across Birth Order

The data was also analysed to determine birth order (first, middle, last) influences online gaming addiction. The ANOVA results yielded a p-value of 0.056, slightly above the 0.05 significance threshold. While the first-born adolescents had the highest mean addiction score (M = 7.09), followed by last-born (M = 4.48) and middle-born (M = 3.40), these differences were not statistically significant. Hence, the null hypothesis is accepted, suggesting that birth order does not significantly impact the level of online gaming addiction among adolescents in this study (table 1).

Difference In Online Gaming Addiction Across Family Type

Another hypothesis explored whether adolescents from different family structures exhibit different levels of online gaming addiction. Data depicted in table 1 showed a statistically significant difference with a p-value of 0.000. Adolescents from single-parent families reported the highest mean addiction score (M = 7.67), followed by those from joint families (M = 6.18), and the lowest was among those from nuclear families (M = 3.99). Given the significant difference, the null hypothesis is rejected. This suggests that family type has a substantial influence on gaming addiction, possibly due to varying degrees of supervision, emotional availability, and social support within different family structures.

Difference In Online Gaming Addiction Based On Type Of School

This demonstrates a strong positive relationship between time spent in gaming and the level of addiction. Therefore, the null hypothesis is rejected, indicating that duration of daily game play significantly impacts online gaming addiction levels. The study also examined whether the type of school (government vs. private) is associated with varying levels of online gaming addiction. The analysis revealed a p-value of 0.005, indicating a statistically significant difference. Government school students had a higher mean addiction score (M = 7.31) compared to private school students (M = 3.55). As a result, the null hypothesis is rejected, demonstrating that students from government schools are more likely to exhibit higher levels of online gaming addiction. This may be due to differences in access to resources, supervision, academic pressure or extra-curricular engagement (table 1).

Difference In Online Gaming Addiction Based On Hours Spent Playing

A further hypothesis addressed whether the number of hours adolescents spend on online games each day affects their level of addiction. The results were statistically significant, with a p-value of 0.005. Adolescents who played for more than six hours daily reported the highest mean addiction score (M = 11.27), followed by those who played for 1–3 hours (M = 5.06), less than 1 hour (M = 4.85), and 4–6 hours (M = 4.00) (table 1).

Difference In Online Gaming Addiction Based On Parental Supervision

The final hypothesis tested whether parental supervision while playing online games has a significant impact on addiction levels. The analysis showed a p-value of 0.195, which is not statistically significant. Although there was a minor difference in the mean scores of adolescents who were supervised (M = 5.10) versus those who were not (M = 5.05), the difference was negligible. Thus, the null hypothesis is accepted, indicating that parental supervision, as reported by the adolescents, does not significantly affect the level of online gaming addiction. This may suggest that supervision alone is insufficient unless accompanied by engagement, guidance or structured limitations.

Hypothesis Testing

The results of the hypothesis testing reveal that certain demographic factors-specifically gender, family type, type of school, and hours spent playing have a significant impact on online gaming addiction among adolescents. In contrast, age, birth order, and parental supervision were not found to be significant influencers. These findings emphasize the need for targeted interventions that consider these demographic factors, particularly in addressing excessive gaming behaviour among male students, those from government schools, and adolescents in single-parent households or those spending extended periods playing games each day.

Frequency Of Online Gaming Addiction Among Adolescents

The data indicates that a significant proportion of the participants (29.5%) are not addicted to online gaming, suggesting that most of individuals in the sample maintain healthy gaming habits. However, 11.0% are moderately addicted, and 5.5% are highly addicted, highlighting that a notable minority may be at risk for negative consequences related to excessive gaming (fig 1). These findings suggest a need for awareness and possible intervention strategies to prevent moderate use from escalating into high addiction levels (table 2).

Table 1. Online Gaming Addiction Socio- Demo Graphic Profile Of Respondents

Age						
Component	**N value**	**Mean**	**S. D**	**F value**	**Sig.**	**Conclusion**
15-16	10	3.7000	5.43752	2.923	.056	Non significance
16-17	53	3.5472	6.04969			

17-18	137	5.8175	5.78693			
Gender						
Girl Boy	85 115	4.2824 5.8957	4.55812 6.65619	7.452	.001	Significance
Birth order						
First Middle Last	70 53 69	7.0897 3.3962 4.4783	6.26304 5.63417 5.09501	3.706	.056	Non-Significance
Family type						
Nuclear Joint Single-Parent	105 71 24	3.9905 6.1831 7.6667	4.55204 6.74497 7.26915	11.533	.000	Significance
Type of School						
Government Private	90 98	7.3111 3.5510	5.82448 5.54294	5.533	.005	Significance
How many hours a day spend playing online games?						
Less than 1hour/day 1-3hours/day 4-6 hours/day More than6 hours/day	124 53 12 11	4.8548 5.0566 4.0000 11.2727	5.47529 6.13757 3.07482 8.56844	4.421	.005	significance
Do the parents supervise the game you play?						
Yes No	114 80	5.0965 5.0500	6.39548 5.26007	1.646	.195	Non-Significance

Table 2. Frequency Of The Online Gaming Addiction Among Adolescents Aged Between 15-18 years

Sr. No	Categories	Frequency (%)
1.	Not Addicted	59(29.5)
2.	Moderately Addicted	22(11.0)
3.	Highly Addicted	11.0(5.5)

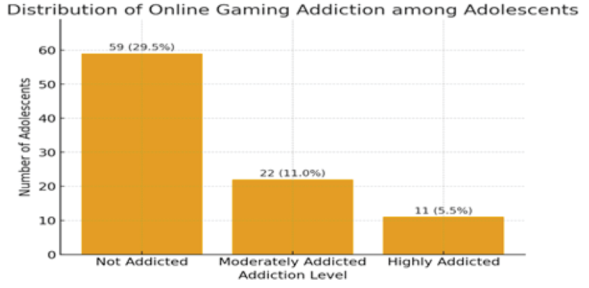

Fig 1. Distribution of online gaming addiction among adolescents

DISCUSSION

Yadav (2021) conducted an experiment to examine impact of online gaming on cognitive function among 60 adolescents who play online games in the NCR region. The survey funding showed that the gamers who remained preoccupied with playing had difficulties in naming of colour. She also finds that online gamers who experienced difficulties due to online gaming had significantly low attention and concentration.

Behaviour addiction refers to several mental health conditions in which the person engages in a particular behaviour repeatedly, even if the behaviour causes the harm, they cannot resist engaging in it. Common behaviour addiction includes gaming addiction, shopping addiction, impulsive stealing etc. Gaming addiction is one of the most common behaviour addictions in the current period. Game challenges our mental skills in a way that performance in other tasks involving some activities improves. Playing games can develop the cognitive skills of an individual like problem-solving, decision-making skills, attention allocation skills, spatial skills etc.

The previous research findings **Tekin *et al.* (2018)** have shown that an important rate of internet addiction was found between internet addiction scale score and Stroop and trail making test scores and indicates no significant difference in prevalence on internet addiction between genders. The present research findings show that Stroop colour was significantly correlated with salience. It indicates that gamers who remained preoccupied with playing had difficulty in colour naming. On the other hand, withdrawal found to be significantly associated with colour word and interference. It indicates that, those who played online game experiences withdrawal feature and that interfere in their retrieval. Whereas, mood modification was found to be significantly negatively associated with digit backward which indicates that online gamers who experience mood modification due to online game are unable to relax and feel happy. And conflict was found to be significantly negatively associated with digit backward, which indicates that online gamers who experienced conflict due to online gaming had significantly deficit in attention and concentration.

CONCLUSION

From the overall findings, it can be concluded that age, birth order, and parental supervision show no significant effect on addiction levels while, gender, family type, type of school, and hours spent gaming significantly influence addictive behaviour. Boys, government school students, adolescents from single-parent families, and those playing for longer durations showed higher addiction scores. Although, 29.5% of participants were not addicted, 11% were moderately addicted and 5.5% highly addicted, indicating a considerable at-risk group. The research highlights the urgent need for awareness, preventive strategies, and targeted interventions to curb the negative cognitive, social, and health impacts of online gaming among vulnerable adolescents.

Authors Contribution

In this manuscript, **L.D.** contributed in conducting whole research, writing of manuscript, data analysis, presentation of data and **S. A.** contributed in editing of the manuscript, in data analysis and guide time to time for efficient conducting of this research.

Conflict Of Interest

Author hereby declares that there is no conflict of interest exist in this manuscript. Author also declares that, the manuscript is written and data presented is original.

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