

A Study on the Psychological Impact of Online Gaming with Reference to Free Fire among College Students

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Abstract

Online gaming has grown into a significant part of young people's everyday routines, and among mobile titles, Free Fire stands out as one of the most popular. Although the game provides enjoyment, enhances strategic thinking skills, and facilitates social engagement, concerns have emerged regarding its possible effects on players' mental health. Playing excessively has been associated with heightened stress, emotional volatility, and diminished concentration on academics, disrupted sleep patterns, and shifts in how players relate to others socially.

This study aims to explore how Free Fire affects the psychological state of college students, with particular attention to how often and how long they play in relation to their emotions, stress levels, aggression, social relationships, and academic outcomes. A descriptive research design has been employed, and primary data will be gathered directly from Free Fire players by means of a structured questionnaire.

The results of this research are intended to give students, parents, teachers, and mental health practitioners a clearer picture of how online gaming influences psychological health. It is also hoped that the study will promote balanced gaming practices and raise awareness around responsible gaming among young adults.

Keywords: Free Fire, Online Gaming, Psychological Impact ,College Students ,Gaming Addiction

1. Introduction

Smartphone access and cheap mobile data have turned online gaming into a routine part of daily life for college students. Among these, Free Fire has emerged as a particularly popular battle royal game due to its fast-paced gameplay, short match duration, low hardware requirements, and its appeal as both a competitive experience and a social activity enjoyed with friends and college mates. This popularity has drawn growing attention from educators, parents, and mental health professionals, who recognize that gaming affects students in two opposing ways: it can genuinely lift mood, ease stress, and strengthen peer bonds, but heavier or prolonged play has also been tied to compulsive habits, poor emotional control after losses, weaker academic focus, and less time spent with family.

Because college students face academic pressure and greater independence with less parental oversight than school-age children, their gaming behaviour often goes unchecked even though its psychological effects can meaningfully shape their wellbeing and performance which is why this study uses a structured survey to examine both the beneficial and harmful sides of Free Fire use among this group, aiming to produce evidence that can guide how institutions and families respond.

2. Review of literature

Nugraha, Amiruddin, and Sulaiman (2026) examined the relationship between Free Fire gaming intensity and aggressive behaviour among vocational high school students in Indonesia using a correlational survey design. Their findings showed a statistically significant positive association between gaming intensity and aggression, with students reporting stronger verbal aggression and irritability particularly after in-game defeat, echoing the anger- and frustration-related items included in the present questionnaire.

Studies consistently link heavy Free Fire and related mobile-game use to disruptions in study routines. Saleem and Khalid (2025), drawing on parental interviews in Lahore, reported that parents observed a decline in academic performance, attention, and engagement among children who played Free Fire heavily, alongside increased irritability and sleep disturbance. This parallels findings referenced by Saleem and Khalid from Septinarini and Alimuddin's 2024 investigation, which found Free Fire use to be negatively correlated with students' interest in learning. Within a broader gaming-disorder context, Satapathy et al. (2024) conducted a systematic review and meta-analysis on the burden of gaming disorder among adolescents, concluding that problematic gaming carries measurable academic and psychosocial costs and calling for early screening in educational settings.

3. Research Methodology

Statement of the Problem

Free Fire is among the most downloaded mobile battle-royale games among Indian college students, offering short, competitive matches accessible on low-end smartphones. While the game offers entertainment, social connection, and stress relief, concerns persist regarding its effects on emotional regulation, academic focus, and family relationships. This study investigates these psychological dimensions systematically among college students.

Objectives of the Study

- To study the demographic and gaming-habit profile of college students who play Free Fire.
- To assess the psychological impact of Free Fire in terms of emotional wellbeing (enjoyment, relaxation, mood).
- To examine emotional-regulation tendencies associated with Free Fire play.
- To evaluate the social impact of Free Fire on peer relationships and family time.
- To analyse the academic impact of Free Fire on study habits and concentration.

Research Design

The study adopts a descriptive, survey research design, suited to capturing the prevailing psychological perceptions of a student population at a single point in time using a structured instrument.

Population and Sampling

The population comprises undergraduate and postgraduate college students who play Free Fire. A sample of 107 respondents was drawn using convenience sampling from students across various years of study. A sample of this size is generally regarded as adequate for descriptive Likert-scale survey research of this kind, providing a reasonable margin of error for percentage-based interpretation at the college level.

Data Collection Tool

Data were collected using a structured questionnaire comprising two sections: Section A - captured demographic and gaming-habit information (age, gender, year of study, average daily playing time, and duration of play). Section B - measured psychological impact across 20 statements rated on a five-point

Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), spanning affective/enjoyment items, compulsive/emotional-control items, social items, and academic-impact items.

Statistical Tools Used

- Percentage analysis - for demographic and Likert-response distribution.
- Arithmetic mean and standard deviation - to gauge the average level and consistency of agreement per statement.

Scope and Limitations

The study is confined to Free Fire players among college students within a specific institutional and relies on self-reported perceptions, which may be subject to social-desirability bias. The study is limited to college students and does not include school students, working professionals, or other age groups. The research focuses only on Free Fire and does not compare its psychological impact with other online games.

4. Data Analysis and Interpretation

This section presents the frequency and percentage distribution of the demographic profile and gaming habits of the 157 respondents, followed by the frequency, percentage, mean, and standard deviation for each of the 20 psychological-impact statements in Section B.

Demographic Profile of Respondents

Table 1: Age Distribution

Age Group	Frequency (n)	Percentage (%)
17–18 years	23	21.5%
19–20 years	41	38.3%
21–22 years	30	28.0%
Above 22 years	13	12.1%
Total	107	100.0%

Table 2: Gender Distribution

Gender	Frequency (n)	Percentage (%)
Male	62	57.9%
Female	43	40.2%
Other	2	1.9%
Total	107	100.0%

Table 3: Average Time Spent Playing Free Fire per Day

Time Spent per Day	Frequency (n)	Percentage (%)
Less than 1 hour	20	18.7%
1–2 hours	36	33.6%
3–4 hours	32	29.9%
More than 4 hours	19	17.8%
Total	107	100.0%

Table 4: Duration of Playing Free Fire

Duration of Play	Frequency (n)	Percentage (%)
Less than 6 months	15	14.0%
6 months–1 year	21	19.6%
1–3 years	39	36.4%
More than 3 years	32	29.9%
Total	107	100.0%

Interpretation: The majority of respondents (38.3%) fall in the 19–20 years age group, and males (57.9%) slightly outnumber females (40.2%) in the sample. A large proportion of students (63.6%) play Free Fire for 1- 4 hours daily, and most respondents (66.4%) have been playing for more than a year, indicating a sample with substantial and sustained gaming exposure appropriate for assessing psychological impact.

Frequency Table - Psychological Impact Statements (Section B, N = 107)

Table 5: Frequency (f), Percentage-equivalent level, Mean, and Standard Deviation for each statement (Scale: 1 = SD, 2 = D, 3 = N, 4 = A, 5 = SA)

No.	Statement	Mean	S.D.	Interpretation
1	I enjoy playing Free Fire.	4.07	0.99	High
2	Playing Free Fire helps me relax.	3.87	1.08	High
3	Playing Free Fire improves my mood.	3.73	1.11	Moderate-High
4	I feel happy after playing Free Fire.	3.83	1.06	High
5	Playing Free Fire helps me forget my daily worries.	3.73	1.13	Moderate-High
6	I feel restless when I cannot play Free Fire.	3.25	1.24	Moderate-High
7	I become anxious if I miss playing Free Fire.	3.07	1.27	Moderate
8	I think about Free Fire even when I am not playing.	3.39	1.23	Moderate-High
9	I become angry when I lose a match.	3.63	1.16	Moderate-High
10	I become frustrated if my game is interrupted.	3.54	1.18	Moderate-High
11	I can control my emotions while playing Free Fire.	3.12	1.20	Moderate
12	Free Fire helps me communicate with friends.	3.85	1.08	High
13	I have made new friends through Free Fire.	3.43	1.21	Moderate-High
14	I spend less time with my family because of gaming.	3.32	1.23	Moderate-High
15	Playing Free Fire improves my teamwork skills.	3.70	1.10	Moderate-High
16	Gaming affects my daily study schedule.	3.41	1.22	Moderate-High
17	I postpone assignments to play Free Fire.	3.30	1.27	Moderate-High

18	Gaming reduces my concentration in class.	3.32	1.24	Moderate-High
19	I can balance gaming and my studies effectively.	3.34	1.13	Moderate-High
20	I believe excessive gaming can affect mental health.	4.03	1.02	High

Overall Mean Score across all 20 statements = 3.55 (on a 5-point scale), indicating a moderate-to-high overall perceived psychological engagement with Free Fire among respondents.

5. Findings

- A majority of the respondents (38.3%) belong to the 19–20 years age group, and 57.9% of the participants are male.
- About 29.9% of the students play Free Fire for 3–4 hours per day, while 17.8% spend more than 4 hours daily, indicating that a considerable proportion are heavy gamers.
- Nearly 29.9% of the respondents have been playing Free Fire for more than three years, reflecting long-term involvement with the game.
- The highest mean scores (above 3.7) were recorded for enjoyment, relaxation, and mood enhancement, indicating that students primarily perceive Free Fire as a source of entertainment and stress relief.
- Moderate mean scores (3.08–3.25) for restlessness and anxiety when unable to play suggest that some students display signs of compulsive gaming, although this is not common among all respondents.
- Many students reported feeling angry or frustrated after losing a game or when their gameplay was interrupted, indicating moderate emotional reactions associated with gaming.
- Students reported that Free Fire helps strengthen friendships and communication with peers (mean 3.86) more than it reduces time spent with family (mean 3.34), suggesting stronger positive social interactions with friends despite some impact on family time.
- Responses related to academic performance, including disrupted schedules, postponed assignments, and reduced concentration, showed moderate mean scores (3.30–3.43), indicating that gaming has a noticeable but moderate influence on academic activities.
- Most students acknowledged that excessive gaming can have negative effects on mental health (mean 4.01), demonstrating a high level of awareness regarding the potential psychological consequences of prolonged gaming.

6. Suggestions

The findings carry several practical implications for colleges, counsellors, and families. Instead of restricting gaming outright, colleges should conduct workshops on digital wellbeing and time management to help students balance gaming with academics, while acknowledging its value for stress relief and social connection. Counsellors should employ brief, validated screening tools to detect compulsive gaming symptoms, such as restlessness or anxiety when unable to play, so that support can be directed toward the at-risk minority rather than applied uniformly to all gamers.

As post-game frustration and irritability emerged as a key concern, consistent with prior aggression research, targeted emotion-regulation and anger-management sessions are recommended. Since gaming was also found to strengthen peer relationships, peer-led awareness campaigns may prove more effective than imposed restrictions, using existing gaming communities to spread healthy-gaming practices. Lastly,

families and hostel authorities should be made aware of the slight decrease in family time associated with excessive gaming, and should be encouraged to promote offline family bonding without portraying gaming in a negative or shameful light.

7. Conclusion

This study set out to examine the psychological impact of Free Fire among 107 college students across affective, compulsive, social, and academic dimensions. The results show that Free Fire is predominantly experienced as an enjoyable, mood-enhancing, and socially connective activity, with the highest agreement recorded for enjoyment, relaxation, and communication with friends. At the same time, moderate levels of compulsive engagement, emotion-regulation difficulty after losses, and academic interference were also evident, indicating that the psychological impact of Free Fire is neither uniformly positive nor uniformly harmful but dual in nature and dependent on the intensity and pattern of an individual student's play. With an overall mean of 3.55 on the five-point scale, the data suggest a moderate-to-high level of psychological engagement that merits proactive institutional attention through awareness programmes, counselling support, and balanced time-management guidance rather than alarmist restriction. These findings are broadly consistent with the 2024–2026 literature reviewed, which similarly documents both the stress-relief and the aggression, academic-interference, and compulsive-use risks associated with Free Fire and comparable online games among student populations.

8. References

9. Nugraha, I., Amiruddin, & Sulaiman, D. R. A. (2026). The influence of Free Fire online gaming on aggressive behavior among vocational high school students in Gowa, Indonesia. *Journal of Education Psychology and Social Development*, 2(1), 47–52. <https://doi.org/10.66314/jepsi.v2i1.614>
10. Saleem, S., & Khalid, M. A. (2025). Parental view on Free Fire game impact on children mental health and effectiveness of control measures. *Human Nature Journal of Social Sciences*, 6(4), 12–26. <https://www.researchgate.net/publication/398992620>
11. Satapathy, P., Khatib, M. N., Balaraman, A. K., R, R., Kaur, M., Srivastava, M., Barwal, A., Prasad, G. V. S., Rajput, P., Syed, R., Sharma, G., Kumar, S., Singh, M. P., Bushi, G., Chilakam, N., Pandey, S., Brar, M., Mehta, R., Sah, S., & Samal, S. K. (2024). Burden of gaming disorder among adolescents: A systemic review and meta-analysis. *Public Health in Practice*, 9, Article 100565. <https://doi.org/10.1016/j.puhip.2024.100565>
12. Xiao, Y., Meng, Y., Brown, T. T., Keyes, K. M., & Mann, J. J. (2025). Addictive screen use trajectories and suicidal behaviors, suicidal ideation, and mental health in US youths: A longitudinal cohort study. *JAMA*, 334(3), 219–228.
13. Zareen, R., Ameen, N., Naeem, Q., Javed, A., Jabeen, H., & un Nisa, N. (2023). Free Fire addiction, negative emotions and aggression: A cross sectional study of young adults. *Remittances Review*, 8(2), 708–716. <https://remittancesreview.com/menu-script/index.php/remittances/article/view/25>