The Correlation Between Online Game "*Free Fire*" on Learning Interest, Learning Achievement, and Aggressive Behaviour

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Abstract

Free Fire Battlegrounds, commonly known as *Free Fire*, is a popular game among children in Indonesia, as evidenced by previous studies. This game can lead to severe addiction among its users, particularly the younger generation, due to the excitement and curiosity it evokes. This study examines the correlation between *Free Fire* and students' learning interest, achievement, and aggressive behavior. The research was conducted at SD Negeri Banjaranyar from September to December 2022. The sample consisted of 30 sixth-grade students selected from a total population of 39 using the purposive sampling method. Data collection instruments included field observations, questionnaires, and documentation, and the data were analyzed using the correlational quantitative method. The findings revealed a correlation between *Free Fire* and students' interest in learning, with a decrease in learning interest corresponding to increased time spent playing the game with a significance value of .007. While learning achievement, measured through test scores, showed a decline in some students, the correlation was not statistically significant on a broader scale. In contrast, aggressive behavior among students tended to rise, with many exhibiting rudeness and frequent use of profanity, likely due to the influence of daily online gaming with a significance value of .004. In conclusion, the study found a correlation between *Free Fire* and students' learning interest and aggressive behavior, though it has a minimal overall effect on learning achievement. The results of this study can provide a foundation for parents and educators to reduce and manage the potential adverse effects of *Free Fire*.

Keywords: aggressive behaviour, learning achievment, learning interest, online game

INTRODUCTION

Playtime is an effective medium for learning, as it enables children to communicate and adapt to their environment through interactive play. Playing is a form of mental and physical self-exercise that enhances motivation, performance, and overall achievement in completing tasks and pursuing personal interests (Surya et al., 2020). With the rapid advancement of technology in the era of globalization, significant changes have occurred in daily activities, particularly with the rise of the internet as a tool for

both technology and entertainment, including online games (Chan et al., 2022). These games require an internet connection and allow users to interact with other players in real time. Online games' increasing popularity among school-age children has raised concerns among parents and teachers, as many children play for extended periods without realizing the adverse effects (Raith et al., 2021). Excessive online gaming can lead to several issues for children, including laziness, reduced socialization, eye strain, and a tendency to use inappropriate language (Imataka et al., 2024).

One of Indonesia's most popular online games is *Fire Fire Battlegrounds*, which over 100 million users have downloaded. *Free Fire* is widely favored because it can be played on smartphones with low specifications (Huda & Hotimah, 2020). This is supported by previous research conducted by (Harahap & Ramadan, 2021) which revealed that 80% of fifth-grade students played *Free Fire* with moderate to high intensity. This gaming behavior led to adverse effects, such as a decline in academic performance (psychomotor skills) and deterioration of eye health. Additionally, research by Murjana et al. (2023) indicated that the development of children's character is strongly correlated with playing *Free Fire*, as evidenced by the high gaming intensity among the nine samples studied. Based on these prior studies, this research examines the correlation between playing *Free Fire* and learning interest, achievement, and aggressive behavior among students at SD Negeri Banjaranyar. Interviews with four teachers at SD Negeri Banjaranyar revealed that many students frequently play *Free Fire* at school. Additionally, interviews with five parents indicated that children's behavior had worsened due to their addiction to the game, with behaviors such as defying parents, using rude language, and showing signs of laziness. This addiction has also negatively impacted students' academic performance, as they spend more time playing online games than studying. Given these various impacts, this study aims to investigate the correlation between *Free Fire* on the learning interest, achievement, and aggressive behavior of sixth-grade students at SD Negeri Banjaranyar. This study aims to provide valuable insights to a broad audience, particularly concerning the effects of the *Free Fire* game, thereby equipping parents and educators with the knowledge to implement preventive strategies and mitigate its potential negative impacts on children.

METHOD

The research was carried out in September – December 2022 at SD Negeri Banjaranyar Korwilcam Dindik Pekuncen, Banyumas Regency. The research instruments used are: (1) field observation: observation is a technique of collecting data by observing ongoing activities, with the type of observation used being non-participant observation (Saborido et al., 2024); (2) Questionnaire: Questionnaire is a data collection technique that is carried out by giving a set of questions to respondents, then the respondents answer according to the *Likert scale that* has been given (Ding et al., 2023) . The form scale is in the form of four alternative answer forms consisting of Always (S), Often (SR), Rarely (JR), and Never (TP); (3) Documentation: Documentation is a method of collecting data by observing and analyzing documents made by the subject himself or others for research (Prawiyogi et al., 2021). The documents studied were grade 6 exam scores from an average of 5 subjects, photographs, and archives during the research.

The research method used in this study is a correlational quantitative method. The correlational quantitative method aims to identify the correlation between variables, particularly the correlation between playing *Free Fire* and learning interest, achievement, and aggressive behavior. Correlational quantitative research uses statistical methods that measure the influence between two or more variables (Engel, 2014). According to Supariyadi et al. (2022), correlational research aims to determine whether or not there is a relationship between one variable and another. This study examines the correlation of Fire Fireon students' learning interests, achievements, and aggressive behavior using SPSS 25. The sample used in this study is some students of grade VI of SD Negeri Banjaranyar, totaling 30 students with a total population of 39. The purposive sampling method was used in this study. This sampling method is used to identify samples that align with the research objectives (Andrade, 2021). The data that has been

successfully collected from research sources and instruments will be discussed using the descriptive analysis method, which explains the data obtained by describing the data results in a simple, linear manner. Before the analysis process, validity and reliability tests are carried out to show the validity and consistency of the instruments used. An instrument is valid if it can measure what is to be measured/desired and reveal data from the studied variables (Utami et al., 2023). In this study, data validity was tested using Pearson correlation. Reliability is the consistency of measurement results carried out repeatedly using the same and different measuring instruments (Ridwan et al., 2023). The reliability test was conducted using the split-half technique.

RESULTS AND DISCUSSION

The Correlation of "*Free Fire*" on Learning Interest

Interest is a desire or drive for something. Interest is also an individual's primary motivation that guides the choice of attention, curiosity, fondness, and happiness toward his/her chosen activities, thus causing individuals to consistently engage in these activities (Ulfah & Arifudin, 2022). Interest in learning is the energy that drives a person to achieve learning goals. Learning interest affects the learning process and greatly determines student learning outcomes (Gianistika & Firmansyah, 2023). Several factors affect students' interest in learning, divided into internal and external factors. Internal factors that affect students' interest in learning include motivation, talent, and intelligence in the individual. In contrast, external factors that affect learning interest include learning facilities and infrastructure, educators' role, and family's role (Nindhita et al., 2022).

Table 1. Correlation between *Free Fire* and Learning Interest

		Free Fire	Learning Interest
Free Fire	Pearson Correlation	1	.486**
	Sig. (2-tailed)		.007
	N	30	30
Learning Interest	Pearson Correlation	.486**	1
	Sig. (2-tailed)	.007	
	N	30	30

**Correlation is significant at the 0,01 level (2-tailed)

Based on the conducted research, there is a relevancy between playing Fire Fireand students' interest in learning. The analysis with SPSS 25 on the influence of *Free Fire* and students' learning interest showed a significance value of .007, which is < 0.05, indicating a significant correlation, with a correlation value of 0.486, classified as a medium correlation category. Interest in learning decreases along with the time spent playing the game. This result is in accordance with Azis & Hidayat (2022) research, which concluded that excessive time spent playing *Free Fire* could inhibit students' social behavior. Students who often play *Free Fire* tend to lose interest in learning and struggle to maintain concentration during the learning process. The thought of playing *Free Fire* often interferes with concentration in studying and makes them rush to complete lessons so they can continue playing it. The drive to learn is diminished, and the time spent studying becomes shorter due to greater interest in playing than learning (Harahap & Ramadan, 2021). It is known from the distributed questionnaire that there has been a decline in students'

interest in learning since they became addicted to playing *Free Fire*. Students have become increasingly reluctant to study, attend school, and engage with their surroundings. The tendency to play *Fire Fire* has led students to isolate themselves in their rooms and primarily interact with their virtual friends.

The Correlation of "*Free Fire*" on Learning Achievement

Learning achievement, in its most basic sense, refers to the outcomes achieved following the learning process (Susilo & Sustianingsih, 2021). It encompasses cognitive, affective, and psychomotor changes, reflecting the students' learning experiences. These achievements are typically measured by numerical scores or test results, indicating a students' mastery of educational content (Soenarno & Miranti, 2021). Two primary factors influence learning achievement: internal factors, which originate from the student, and external factors, stemming from the environment. Recognizing these factors is essential in helping students reach their full potential based on their abilities (Salsabila & Puspitasari, 2020). Learning achievement is evaluated through cognitive, affective, and psychomotor domains (Suwannatrai, 2022).

Table 2. Correlation Between *Free Fire* and Learning Achievment

		Free Fire	Learning Achievment
Free Fire	Pearson Correlation	1	-.294
	Sig. (2-tailed)		.115
	N	30	30
Learning Achievment	Pearson Correlation	-.294	1
	Sig. (2-tailed)	.115	
	N	30	30

**. *Correlation is significant at the 0.01 level (2-tailed)*

Based on the conducted research, there is a relevancy between playing *Free Fire* and students' learning achievement, where an increase in the frequency of playing online games tends to be associated with a decrease in learning achievement. However, the analysis with SPSS 25 on the influence of *Free Fire* and student learning achievement showed a significance value of .115, which is > 0.05. it shows that the correlation is not statistically significant. Although some students have experienced a decline in test scores, suggesting a potential decrease in learning achievement, the overall impact is not statistically significant. This implies that excessive time spent on online games may negatively affect academic performance. A study conducted by Haratua et al. (2024) on the impact of online games on the learning outcomes of fifth-grade students at SDN Karangmakmur III found that those who spent more time playing online games demonstrated a notable decline in academic performance compared to those who played less. The study concluded that online gaming can significantly impact student learning outcomes.

The Correlation of "*Free Fire*" on Aggressive Behaviour

Aggressive behavior refers to deliberate actions by an individual aimed at causing physical or psychological harm to others (Utami & Mayar, 2021). The factors that contribute to aggressive behavior are broadly divided into internal and external factors. Internal factors often originate within the family environment, such as poor communication or a lack of parental attention toward children. In contrast, external factors arise from influences outside the home or school, including negative peer interactions that may encourage children to engage in harmful behaviors (Mukhtar et al., 2022).

Table 3. Correlation Between *Free Fire* and Aggressive Behaviour

		Free Fire	Aggressive Behaviour
Free Fire	Pearson Correlation	1	.511**
	Sig. (2-tailed)		.004
	N	30	30
Aggressive Behaviour	Pearson Correlation	.511**	1
	Sig. (2-tailed)	.004	
	N	30	30

**. *Correlation is significant at the 0.01 level (2-tailed)*

Based on the conducted research, there is a relevancy between playing *Free Fire* and students' aggressive behavior. The analysis with SPSS 25 on the influence of *Free Fire* and students' aggressive behavior showed a significance value of .004, which is < 0.05, indicating a significant correlation, with a correlation value of 0.511, categorized as a moderate correlation. Recent studies have observed an increase in aggressive behavior among students who frequently play *Free Fire*, with many displaying the use of offensive language, swearing, and cursing. This suggests a notable impact of online gaming on the development of aggressive tendencies. Research findings indicate that the more often students play *Free Fire*, the higher the likelihood of aggressive behavior, whereas reducing playtime mitigates these tendencies. This effect is likely due to the game's frequent depiction of intense combat and conflict, which can trigger aggressive responses in some children (Sui et al., 2024). Such behaviors are often reflected in interactions with peers and activities outside the digital environment (Kurnia & Ula, 2024).

CONCLUSION

The research on the correlation of *Free Fire* on the learning interest, learning achievement, and aggressive behavior of sixth-grade students at SD Negeri Banjaranyar concludes that *Free Fire* correlates with students' learning interest and aggressive behavior. However, it does not have a notable correlation with learning achievement. The decline in learning performance among students is linked to excessive time spent playing online games. This conclusion is supported by data from questionnaires and semester exam scores provided by sixth-grade teachers at SD Negeri Banjaranyar, as well as analysis results using SPSS 25 software. The findings of this study can serve as a foundation for parents and educators to minimize and mitigate the negative impacts of *Free Fire*, especially on learning interest, learning achievement, and aggressive behavior.

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