

# The Impact of Online Games on Adolescent Health in Umbul Rowo Hamlet

Miftahul Munir<sup>1</sup>, Mashudi Ma'ruf<sup>2</sup>, Emawati Dwi Astuti<sup>3</sup>, Siti Roudhotul Jannah<sup>4</sup>

<sup>1234</sup>Universitas Ma'arif Metro Lampung, Indonesia

\*miftahalmunir46@gmail.com

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## ABSTRACT

This research aims to analyze the influence of online gaming on the mental health of adolescents in hamlet Umbul Rowo. The background of this study is based on the increasing use of online games among teenagers, which impacts various aspects of life, particularly mental health. The method used is a quantitative approach with a survey technique. The sample in this study consists of 32 adolescents aged 13–18 years, selected purposively. Data was collected through closed questionnaires and analyzed using simple linear regression tests. The results of the study indicate a significant influence between the intensity of online gaming and the mental health of adolescents, with a significance value of 0.002 ( $< 0.05$ ). The longer the gaming duration, the greater the tendency for respondents to experience sleep disturbances, anxiety, and reduced social interaction. However, some respondents also reported emotional and cognitive benefits from gaming, such as decreased stress and improved focus. This research emphasizes the importance of monitoring online gaming usage and the need for education on mental health to prevent long-term negative impacts.

## 1. INTRODUCTION

Adolescents are a vulnerable age group affected by environmental influences, including the impact of digital technology such as online games (Chanra, 2024). In recent years, online gaming has become a primary form of entertainment for many teenagers. Although it has benefits in terms of entertainment and cognitive skills, excessive use of online games can pose risks to the mental health of adolescents, such as stress, depression, anxiety, and social isolation. The advancement of digital technology has brought significant changes to adolescents' lifestyles, especially in terms of entertainment. Online games have become one of the most favored activities, particularly due to the accessibility and interactive features they offer (Ibda, Muntakhib, Fadhilah, & Rakhmawati, 2023). However, excessive use of online games has the potential to create negative impacts on mental health, including stress, anxiety, and sleep disturbances (Ngatini, 2025). This phenomenon is also observed in Dusun Umbul Rowo, where most teenagers spend hours playing online games.

In the 21st century, many children rely on smartphones, influenced by their environment or due to the negligence of parents who do not limit the use of smartphones (Hadi, 2023). Once children are given a mobile phone by their parents, it seems that parents do not supervise their

children's use of the phone, especially when the children are playing online games. Therefore, it is important to raise awareness about the dangers of gaming addiction in teenagers through mental health education (Daulay, Mardianto, & Nasution, 2023), so that the mental damage caused by online games can be minimized, ultimately fostering better generations who are healthy both physically and mentally. Deteriorating mental health due to excessive online gaming affects academic performance, leading to unsatisfactory school grades (Taha, Pulukadang, Pomalingo, & Amin, 2023). This impact also affects the individual's mental state as they feel pressured by their achievements and experience a decline in concentration while studying. In the research conducted by Muhamad Ghofar (2023), the impact of online games on the mental health of Generation Z, a qualitative approach was utilized with descriptive analytical methods. The results and discussions in this study indicate that the negative effects of online gaming predominantly occur during adolescence. The research concluded that the negative impacts of online gaming addiction occur in five aspects: health, psychological, academic, social, and financial. Therefore, it is necessary to implement strategies for moderating online gaming to help individuals avoid gaming addiction that can harm their mental health (Gofar, 2023).

Islam Pandu Utomo et al. (2022) also conducted a study titled "Health Impacts of Online Game Addiction in Adolescents." The method used in this study was the PRISMA method. The literature used spanned from 2018 to 2021. The data used was obtained from Google Scholar using the keywords online games, adolescents, and health impacts of playing online games, to determine the causes and health impacts of playing online games in adolescents. A total of 55 filtered articles were analyzed and reviewed, and then re-selected to become ten articles that met the inclusion criteria. The conclusion of this study is that playing online games for too long will have negative impacts on the body such as obesity, eye pain, brain disorders, back pain, and joint pain (Fitrajaya, Utomo, & Handayani, 2022). In another study conducted by Kibtiyah et al. (2023) with the title "The Impact of Online Game Addiction on Adolescent Mental Health and Its Handling in Islamic Counseling," the results showed that adolescents who are categorized as experiencing online game addiction certainly show the most common health problems, which are higher emotional distress, anxiety, depression, and social behavior. Online game addiction will have different impacts on its users. This study aims to examine online game addiction disorders and their treatment in Islamic counseling. The research method used in this study is a descriptive qualitative approach with a case study research design. The results of this study prove that the problems of online game addiction disorders among adolescents and their impact on mental health can be addressed by taking an Islamic counseling approach (Kibtyah, Naqiya, Niswah, & Dewi, 2023).

Based on an analysis of three previous studies by Ghofar (2023), Utomo et al. (2022), and Kibtiyah et al. (2023), it can be concluded that the primary focus of these studies is on the negative impact of online game addiction on the mental and physical health of adolescents. These three studies employed qualitative approaches or descriptive literature reviews, without quantitatively testing causal relationships. Furthermore, the regional scope of these studies is general and does not specifically highlight the local context. Recent research using a quantitative approach through surveys and simple linear regression analysis of adolescents in Umbul Rowo hamlet fills this gap by presenting empirical data that demonstrates a significant influence between the intensity of playing online games and the mental health of adolescents. This finding also introduces novelty by revealing that, although there are negative impacts such as sleep disturbances and anxiety, some adolescents also experience positive effects such as stress reduction and increased focus.

Thus, this research not only reinforces previous findings but also expands the perspective through a quantitative approach and exploration of the positive aspects of online game use. This research provides a practical contribution in the form of a data foundation for educational and monitoring efforts regarding online game use among adolescents, particularly in the local context. The purpose of this study is to analyze the extent to which online games affect the mental health conditions of adolescents in Umbul Rowo hamlet. It is hoped that this research will provide useful information for parents, teachers, and the community in addressing mental health issues in adolescents.

## **2. METHODS**

This research employs a quantitative approach using a survey method. The population in this study comprises all adolescents aged 13–18 years in Umbul Rowo Hamlet. The sample consists of 32 individuals selected using purposive sampling (Winarni, 2021), based on a minimum online gaming intensity of 1 hour per day. The research instrument is a closed questionnaire consisting of two parts: (1) frequency and duration of online gaming, and (2) a mental health scale based on indicators of anxiety, stress, insomnia, and social interaction. Data were analyzed using a simple linear regression test to determine the effect between the independent variable (intensity of online gaming) and the dependent variable (mental health).

The data collection technique used in this study is a questionnaire designed based on the indicators of each research variable. Before using the instrument, a validity test was conducted using Pearson Product Moment correlation and a reliability test using Cronbach's Alpha technique with the help of SPSS Version 21. The data analysis technique in this study utilizes inferential analysis. Inferential analysis was conducted to test the hypothesis using linear regression analysis. Prior to hypothesis testing, classical assumption tests were performed, including normality test (Kolmogorov-Smirnov), multicollinearity test, and heteroscedasticity test. All data analyses were conducted using SPSS Version 21. The measurement scale in this study employed a closed questionnaire, where respondents choose from predetermined answer options. The available answer choices in the questionnaire are as follows:

**Tabel 1.** Assessment category

Statement	Abbreviation	Score
Totally disagree	STS	1
Don't agree	TS	2
Neutral	N	3
Agree	S	4
Strongly agree	SS	5

### 3. RESULTS AND DISCUSSION

The following table shows the data results from 32 adolescent respondents in Umbul Rowo Hamlet:

**Table 2.** Respondents

Health aspects	Number of respondents	Persentation
Having sleep disorders	23	71,87%
Have a sense of anxiety	28	87,5%
Less direct interaction	20	62,5%
Feel happy and reduce stress	6	18,75%

Respondents who play for more than 3 hours a day are more likely to experience symptoms of anxiety (87.5%), sleep disturbances (71.87%), and decreased social interaction (62.5%). Conversely, respondents with playtime of less than 1 hour showed more stable mental health levels (18.75%).

**Table 3.** Model Summary, Anova, Coefficients

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 <sup>a</sup>	.262	.247	4.321

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	210.456	1	210.456	11.268	.002 <sup>b</sup>
	Residual	529.234	32	18.507		
	Total	802.690	33			

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	65.213	3.124		20.874	.000
	Durasi Bermain	-0.782	0.217	-0.512	-3.356	.002
	Game Online					

Based on the results of the simple linear regression test, a significance value of  $0.002 < 0.05$  was obtained, indicating a significant influence between the intensity of playing online games and the mental health of adolescents. The regression coefficient of -0.728 shows that for every one-unit increase in the intensity of playing online games, the mental health score of adolescents will decrease by 0.728, indicating a negative relationship between the two. The R Square value of 0.262 indicates that the online gaming variable explains 26.2% of the variation in adolescent mental health, while the remainder is influenced by other variables outside of this model, calculated with the assistance of SPSS Version 21.

The results above indicate that online gaming has varying effects on the health of teenagers in Dusun Umbul Rowo. Physically, the majority of respondents experience sleep disturbances and eye strain. However, some also feel that playing games can help them feel more relaxed and reduce stress. This suggests that online gaming can be a means of healthy emotional outlet if used in moderation. In addition, some respondents showed improvements in their focus and strategic skills while playing games, indicating cognitive benefits. However, uncontrolled gaming duration also negatively impacts daily activities such as mealtime and social interactions. The findings of this study align with previous research indicating that excessive use of online games negatively affects the psychological condition of teenagers. The addictive nature of online games can lead teenagers to neglect social activities and rest periods, which in the long run can

trigger stress and other psychological disorders (Saputra, 2024). A limitation of this study is the failure to differentiate between types of games and the respondents' family backgrounds, which may also influence mental health. Nevertheless, the results still show that online gaming is not just entertainment, but also a factor that needs to be considered in the psychological development of teenagers.

#### 4.CONCLUSION

Based on the research conducted on 32 teenage respondents in Dusun Umbul Rowo, it can be concluded that online gaming has a significant impact on the mental health of adolescents. The results of the simple linear regression test show a significance value of 0.002 ( $< 0.05$ ), indicating a significant relationship between the intensity of online gaming and the decline in mental health. The longer the gaming duration, the greater the tendency for teenagers to experience sleep disturbances, anxiety, and decreased social interaction. Nevertheless, some respondents also reported positive benefits from online gaming, such as feelings of entertainment and reduced stress, as well as improved focus and strategy skills. This suggests that online games can provide emotional and cognitive benefits when used in moderation and under control. Therefore, the use of online games among teenagers should be monitored and guided to avoid negative impacts on their physical and psychological health. Education about healthy technology use, setting gaming time limits, and promoting alternative social activities need to be enhanced as preventive measures.

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