

## THE RELATIONSHIP BETWEEN ADDICTION TO PLAYING ONLINE GAMES WITH LEARNING ACHIEVEMENT OF SCHOOL AGE-CHILDREN IN ELEMENTARY SCHOOL JAMBI CITY IN 2023

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### ABSTRACT

**Background:** Online gaming has become a hobby for children, from elementary students to adults. Online game addiction will affect student learning achievement. This study aimed to determine the relationship between the habit of playing online games and the learning achievement of school-age children at Elementary School number 206 Jambi.

**Methods:** This research used a sectional approach using a total sampling technique. The population in this study were all students in grades IV and V of Elementary School number 206 Jambi, which consisted of 70 students. The research was collected using an Internet Addiction Test (IAT) questionnaire, declared valid and reliable from previous studies.

**Results:** The results showed a p-value of 0.002 with a correlation value of -1. This means that there is a negative relationship between online game addiction and learning achievement is a negative relationship, in which an increase in the online game addiction variable will lead to a decrease in the learning achievement variable.

**Conclusion:** Recommendations for parents and teachers to work together in supervising children playing games, especially online games. Online gaming has become a hobby for children, from elementary students to adults.

**Keywords:** online games; school age-children; addiction; learning achievement

### INTRODUCTION

Technology today has a significant influence on human life. Therefore, technological advances such as television, radio, cellphones, gadgets, and iPads quickly affect society. Technology has many essential functions and influences in various fields, one of which is the field of entertainment, such as games that use internet media as the primary media, better known as online games. According to Adams and Rollings, online games can be accessed by many players, where the machines players use are connected to an internet network. The development of online games is currently very rapid, starting from the gameplay display method, game graphics, image resolution, and others (Kurniati, 2021).

Online games are games or games that many people can play simultaneously through online communication networks. Addiction or addiction to online games has become a phenomenon lately. Online gaming applications that are increasingly accessible seem to make more and more people use them. Not only adults but teenagers and children also find it increasingly easy to play various kinds of online games. The increasingly fast and cheap Internet connection, as well as the development of smartphone technology that is increasingly advanced and more affordable, inevitably makes more and more people play online games. By using a cell phone, playing online games has become more flexible (Trisnani, R. P. & Wardani, 2019).

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where many people can play at the same time through online communication networks. Addiction or addiction to online games seems to have become a kind of phenomenon lately. Online gaming applications that are increasingly accessible seem to make more and more people use them. Not only adults but teenagers and children also find it increasingly easy to play various kinds of online games. The increasingly fast and cheap Internet connection, as well as the development of smartphone technology that is increasingly advanced and more affordable, inevitably makes more and more people play online games. By using a cell phone, playing online games has become more flexible (Trisnani, R. P. & Wardani, 2019)(Kurniati, 2021).

Online game addiction is one type of addiction caused by internet technology, better known as internet addictive disorder. As mentioned by Young, the internet can cause addiction, one of which is computer game addiction (excessive playing of games). Young stated that online game addiction is a behavior that wants to continue playing online games and cannot be controlled or has no power to stop it. Online game addiction is the behavior of someone who wants to continue playing online games and spend much time, and it is possible that the individual concerned is unable to control or control it (Trisnani, R. P. & Wardani, 2019).

Many studies discuss how the habit of playing online games affects the learning achievement of elementary school students. Several studies carried out in Surabaya and Banda Aceh among fifth-grade elementary school children found that the majority of students experienced a moderate level of online game addiction. The results of the study stated that there was a relationship between addiction to playing online games and the learning achievement of school-age children (Mudzakir, 2020) (Julia, 2018).

Based on an initial survey of grade V students of Elementary School Number 206 Jambi City conducted on 3rd March 2023, it

was found that one student was not addicted to online games, two students experienced mild online game addiction, three students experienced moderate online game addiction and four students experienced severe online game addiction. So, 9 out of 10 students experience addiction to online games, and 7 of them experience a decrease in learning achievement at school. Based on this phenomenon, the authors are interested in conducting research on the relationship between the habit of playing online games and the learning achievement of school-age children at an Elementary School in Jambi City in 2023. The purpose of this study was to determine the relationship between the habit of playing online games and the learning achievement of school-age children at an Elementary School in Jambi City in 2023.

## METHODS

This study is a study with univariate and bivariate analysis, with a cross-sectional design. The targets of this study were students of Elementary School Number 206 Jambi City, with 70 school-age children of Elementary School Number 206 Jambi City. The population in this study were all grade IV and grade V students. The total sampling technique is 70 people. Data collection was carried out by researchers, and data was obtained by filling out questionnaires/questionnaires using the Internet Addiction Test (IAT) (Maharani et al., 2018), which has been declared valid and reliable from previous studies. This research has ethical exemption number LB.02.06/2/220/2023 from the health research ethics committee of Health Polytechnic of Jambi.

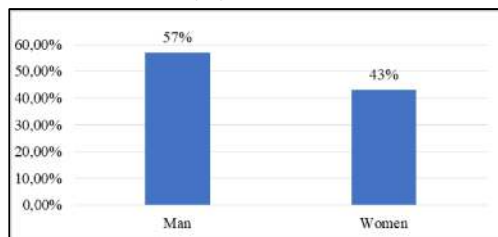
## RESULTS AND DISCUSSIONS

### 1. Overview of respondent gender

In this study, researchers used 70 students as research samples. Thirty

students are grade IV students, consisting of 13 female students and 17 male students. Forty students are fifth-grade students, consisting of 17 female students and 23 male students. In Nuhan's research (2016), it was stated that most of the activities carried out by male students were playing games (85%). These results provide a picture of students who are addicted, and the intensity of playing online games is high in male students. Online games that are so exciting make game players have an addictive nature, so students spend a lot of time playing online games, especially by male students (Nuhan, 2016).

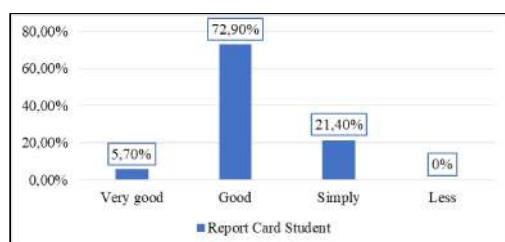
**Graphic 1.** Frequency Distribution of Students Gender in Grades IV and V of Elementary School Number 206 Jambi City in 2023



## 2. An overview of respondents learning achievement

Based on the frequency distribution data of learning achievement of fourth and fifth-grade students of Elementary School Jambi City in 2023 which can be seen in graphic 2.

**Graphic 2.** Frequency Distribution Reports Card Students in Grades IV and V of Elementary School Number 206 Jambi City in 2023

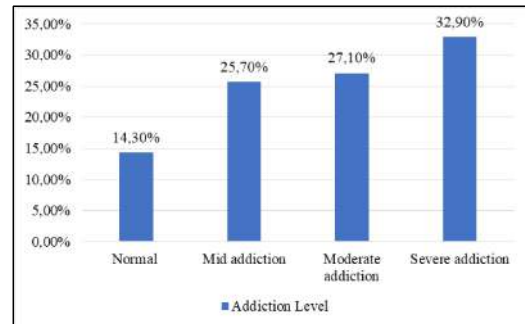


## 3. Overview of online gaming addiction levels

The distribution of *online game* addiction

levels of Elementary School Jambi City students in 2023 can be seen in graphic 3.

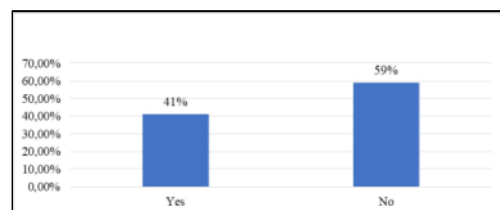
**Graphic 3.** Frequency Distribution *Online Game* Addiction Level Students in Grades IV and V of Elementary School Number 206 Jambi City in 2023



## 4. An overview of parental supervision achievement

Respondents who did not get parental supervision or restrictions on the use of *cellphones/ gadgets* and also *online gaming* of Elementary School Jambi City students in 2023 can be seen in Graphic 4.

**Graphic 4.** Frequency Distribution Parental Supervision Students in Grades IV and V of Elementary School Number 206 Jambi City in 2023



## 5. The relationship between online gaming addiction and learning achievement

Hypothesis testing in this study was carried out using the Gamma Test. Gamma correlation is one of the measurements included in nonparametric statistics. Its purpose is to find the strength and direction of the symmetrical relationship of the appropriate association and is suitable for two variables measured on ordinal scale data or dichotomous nominal variables. The gamma correlation test result is 0.002 with a correlation value of -1. The form of relationship between the two variables is a solid negative relationship, which means the higher the

intensity of online game addiction, the more drastic the decline in learning achievement will be.

**Tabel 1.** Learning Achievement Variable with Online Game Addiction

Symmetric Measures					
		Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Ordinal by Ordinal	Gamma	-1,000	,000	-3,045	0,002*
N of Valid Cases		70			

\*gamma correlation test

Based on the range from Sabri (2018), the relationship between online game addiction and learning achievement is a strong relationship because the correlation coefficient of -1 is in the range of a powerful relationship. If the value of  $r^2$  is close to 1 (one), it can be said that the stronger the model is in explaining the variation of the independent variable on the dependent variable. If squared, the value of  $r^2$  is 1, which means that online game addiction contributes to decreased learning achievement. So, the higher the intensity of online game addiction, the more drastic the decline in learning achievement will be (Sabri, Luknis. & Hastono, 2018).

The hypothesis examined in this study reads, "There is a negative relationship between the level of online game addiction and student learning achievement." Hypothesis testing is done by looking at the results of statistical analysis using the gamma correlation technique to see the relationship between the two variables, which is the significance value (p) and the strength of the relationship (r). The acceptance of the hypothesis in this study is related to what Rahmawati (2021) stated: that children who like to play online games are children who like challenges. These children tend to dislike monotonous stimuli such as writing on books or blackboards. Writing in books or blackboards is considered uninteresting and monotonous because it does not move,

is not rich in color, and is less stimulating. Based on the results of Julia's research (2018), it is stated that there is an influential relationship between online game addiction and student learning achievement. The results of the analysis show that overall game addiction is in the high category with an average percentage of 68.96%. Someone who often plays games will experience addiction so that much time is wasted playing alone and not doing other activities and activities because someone considers online games more important than other things (Rahmawati, Devie; Deddy, Mulyana, & Boy, 2021)(Julia, 2018).

Contrary to the results of research by Oknalina et al. (2020), which states that there is no relationship between addiction to playing online games and the learning achievement of students of junior high school Padang. According to researchers, the decline in learning achievement is not only due to online game addiction but may be due to other factors, such as psychological factors that can also affect students' low learning achievement, namely intelligence, low aptitude for subjects, low interest and motivation to learn (Oknalina et al., 2020).

## 6. The relationship between parental supervision achievement and learning achievement

According to Herdiansyah (2016), there is a general assumption that in terms of academics in the classroom, girls are better than boys, while boys perform better in sports or outdoor activities, especially those related to agility and physical strength. The results of the analysis state that the gender variable is a confounding factor that affects student learning achievement, with a p-value of 0.028. The correlation value of 0.588 means that Gender has a fairly strong relationship to changes in learning achievement (Oktaviani, 2020).

Based on the results of Oktaviani's research (2020), there is a relevant

relationship, the influence of student gender is significant and there are differences in the science learning outcomes of grade V students of elementary school number Kebandaran Pemalang in the 2019/2020 academic year. Gender relations at school are closely related to learning achievement at school. The results of other research conducted by Wardani (2018) found evidence that there is a direct effect of Gender on student learning achievement. This is because the differences in the brain structures of men and women are different (Oktaviani, 2020).

From the results of the data analysis, it is found that parental supervision variables are confounding factors that affect student achievement, with a p-value of  $0.001 < 0.05$ . The correlation value of 0.898 means that parental supervision of the use of cell phones/gadgets in the time limit for playing online games has a very strong relationship to changes in learning achievement. In this study, 41 respondents were obtained who did not get restrictions or supervision in playing online games, and 29 respondents who got restrictions in playing online games.

The results of this study are in line with the results of Munita's research (2021) that the contribution of parents in overcoming children who are addicted to online games in several ways, namely providing supervision when playing online games, limiting time if children play alone, putting gadgets in a hidden place and given a password, the results of parental assistance in overcoming children addicted to online games are children not addicted to online games anymore, having responsibility when asked to do something and being independent when doing their duties (Munita, 2021).

## CONCLUSIONS

According to Herdiansyah (2016), there is a general assumption that in terms of academics in the classroom, girls are better than boys, while boys perform better in sports or outdoor activities, especially those related to agility and physical strength. The results of the analysis state that the gender variable is a confounding factor that affects student learning achievement, with a p-value of 0.028. The correlation value of 0.588 means that Gender has a fairly strong relationship to changes in learning achievement (Oktaviani, 2020).

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## CONFLICT OF INTEREST

There are no conflict of interest in this manuscript.

## REFERENCE

- Adriana, D. (2018). *Tumbuh Kembang Dan Bermain Pada Anak* (Akliia Sulislia (ed.); 2nd ed.). Penerbit Salemba Medica.
- Aedi, N., & Amaliyah, N. (2018). *Manajemen Kurikulum Sekolah*. Gosyen Publishing.
- Apriany, M. L. (2020). *Bimbingan Konseling di SD (Mendampingi Siswa Meraih Mimpi)* (1st ed.). Deepublish.
- Arsyad, A. (2018). *Media Pembelajaran* (18th ed.). Rajawali Pers.
- Elsevier. (2017). *Fundamental Keperawatan Anak* (D. Sjabana (ed.); 7th ed.). Salemba Medika.
- Elsevier. (2019). *Keperawatan Anak* (1st ed.). Elsevier, Inc.
- Harsdiman. (2021). *Tanya Jawab Metodologi Penelitian* (1st ed.). Gosyen Publishing.
- Julia, P. (2018). Hubungan antara Kecanduan Game Online terhadap Prestasi Belajar Siswa SD Negeri 53 Banda Aceh.

*Jurnal Serambi Akademika*, 6(1), 49–57.

<http://ojs.serambimekkah.ac.id/serambi-akademika/article/view/617>

- Khairani, A. I; Manurung, W. A. (2019). *Metodologi Penelitian Kualitatif* (1st ed.).
- Kurniati, I. P. H. (2021). Pengaruh Kebiasaan Bermain Game Online dengan Prestasi Belajar Siswa SD. *Elementa: Jurnal Pendidikan Guru Sekolah Dasar*, 3(1).
- Maharani, D. A., Azis, R. P., & Hasanuddin, Muhammad Ogin; Mahayana, D. (2018). *Mengujikan Internet Addiction Test (IAT) ke Responden Indonesia Cubesat Satellite for AIS Receiver using PIC16F877A View project Real-time moving object tracking View project*. August 2019. <https://doi.org/10.31227/osf.io/7ag4w>
- Mudzakir. (2020). Hubungan Kecanduan Bermain Game Online Dengan Prestasi Belajar Anak Usia Sekolah Kelas V Sekolah Dasar Negeri Tanah Kali Kediding 1 Surabaya. *Repository (Um\_surabaya.Ac.Id)*, 11–13. Repository (um\_surabaya.ac.id)
- Munita, Z. Z. (2021). Peran Orang Tua Dalam Mengatasi Kecanduan Game Online Pada Anak Di Desa Jeblogan Kecamatan Paron Kabupaten Ngawi. In *Industry and Higher Education* (Vol. 3, Issue 1). <http://journal.unilak.ac.id/index.php/JIEB/article/view/3845%0Ahttp://dspace.u.c.ac.id/handle/123456789/1288>
- Nuhan, M. Y. (2016). Hubungan Intensitas Bermain Game Online dengan Prestasi Belajar. *Jurnal Pendidikan Guru Sekolah Dasar*, 5, 6. <https://journal.student.uny.ac.id/ojs/index.php/pgsd/article/view>
- Oknalia, V., Faridah, B., & Yuliva. (2020). Kecanduan Game Online Dengan Prestasi Belajar. *JIK (Jurnal Ilmu Kesehatan)*, 4(2), 136–140. <https://jik.stikesalifah.ac.id>

- Oktaviani, Y. R. (2020). Pengaruh Jenis Kelamin Siswa Terhadap Hasil Belajar Ipa. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, 9(6), 942–948. <https://doi.org/10.33578/jpfkip.v9i5.8072>
- Rahmawati, Devie; Deddy, Mulyana, & Boy, R. A. (2021). *Kecanduan Game Online* (R. A. Giri Lumakto, Rangga Wisesa (ed.); 1st ed.). Pabrik Boekoe.
- Rismalinda. (2017). *Buku Ajar Psikologi Kesehatan* (Maftuhin (ed.); 1st ed.). Trans Info Media.
- Sabri, Luknis. & Hastono, S. P. (2018). *Statistik Kesehatan*. Rajawali Pers.
- Trisnani, R. P. & Wardani, S. Y. (2019). *Stop Kecanduan Game Online*. UNIPMA Press.
- Ungguh, J. M. (2021). *41 Model Permainan Edukatif Terbaik*. Gava Media.
- Usman, H; Akbar, P. S. (2017). *Pengantar Statistika*. Bumi Aksara.
- Wibowo, A. (2021). *Kesehatan Era Digital*. Rajagrafindo Persada.
- Zaiful, R. (2019). *Prestasi Belajar*. CV. Literasi Nusantara Abadi.