The Relationship of Online Game Addiction with Learning Motivation in School Age Children on COVID-19 Pandemic

Inong Sri Rahayu
STIKes Muhammadiyah Lhokseumawe, Indonesia

Indra Karana
STIKes Dharma Husada Bandung, Indonesia

Muhammad Agus Hardiansyah
Universitas Sultan Ageng Tirtayasa, Indonesia

Dyah Handayani Dewi
Universitas Nasional Jakarta, Indonesia

Elihami
Muhammadiyah University of Enrekang, Indonesia

Abstract---Playing online games during the COVID-19 pandemic has caused concern for children's learning motivation. The purpose of the study was to determine the relationship between addiction to playing online games with learning motivation in school-age children during the COVID-19 pandemic. This research method is analytic, with a cross-sectional approach. The study population was all school-age children aged 6-18 years, totaling 57 children, the respondents were determined using total sampling. The study was conducted on July 13 to July 18, 2021. The analysis was carried out using the chi-square test. The results showed that addiction to playing online games was in the addiction category of 70.2%. Learning motivation for school-age children during the COVID-19 pandemic was in the 59.6% category. The p-value = 0.001 ≤ 0.05 with an Odd Ratio (OR) value of 0.103, this proves that there is a relationship between addiction to playing online games and learning motivation in school-age children during the COVID-19 pandemic.

Keywords---COVID-19 pandemic, learning motivation, online games, school age children.
Introduction

Internet technology development

Internet technology provides enormous benefits for progress in all areas of life. One of the internet technologies that is developing very rapidly is online games (Puspita & Rohedi, 2018). Playing games online using the internet is popular with many people, not only for children or teenagers, but also for early adults to approaching old age (Paraskeva et al., 2010).

Adolescents begin to view themselves with personal judgments and standards, but lack the interpretation of social comparisons. Adolescents have unique characteristics, one of which is the nature of wanting to imitate something that is seen, in the circumstances and the surrounding environment. A child will experience growth and development, where a period of rapid growth and development occurs in the first two years of the child’s age and in adolescence (Herianti, 2017).

Problem

The use of online games has received a lot of attention from the wider community. Online games are games that can be played by many people at the same time via the internet (Adams, 2013). Since its appearance online games have become very popular and easy to access. Online games can be played on various platforms, such as personal computers (PCs), game consoles (special tools for playing games) and smartphones. Currently, online games such as Mobile Legend (ML), Arena of Valor (AoV), Clash of Clans (CoC), Fortnite, Dota 2 and Player Unknown’s Battle Ground (PUBG) are among the most widespread recreational activities regardless of culture, age, and gender (Ashraf et al., 2014; Billieux et al., 2015).

The behavior of children and adolescents who play online games during the COVID-19 period has caused concern from parents and teachers, who think that these playing habits have a negative effect on their academic achievement and social behavior (Aji, 2020; Amri, 2020). Ideally, a student is more concerned with school than playing online games during the COVID-19 period so that the student has a positive attitude towards his school (Masfiah & Putri, 2019). But in reality there are still many students who are more concerned with playing online games than studying at home, so these students have low learning motivation (Pan & Gauvain, 2012; Harandi, 2015).

The impact of playing online games during the COVID-19 period

The impact on school-age children, among others, is that school-age children find it difficult to concentrate on school, are often lazy and even skip school, become indifferent or indifferent, disobedient and do not care about the things that happen around them (Anhar, 2014). School-age children who are addicted will do anything to be able to play online games during the COVID-19 period (Riley, 2004; Ambrosini, 2000). The COVID-19 pandemic has forced most school-age children to work from home. Boredom then becomes their main enemy and is often overcome by playing online games (Muhammad et al., 2020).
Online games as part of culture also affect learning motivation (Marlianti, 2015). From this, we can see that online games have a very negative impact on students. Games that are not educational, because the pictures are just fantasy, so they are just fun, and games are just a waste of money, time, and make someone lazy.

Good learning motivation will give birth to good learning processes and results without thinking about other things, for example playing online games during the COVID-19 period (Theresia, 2019; Lam et al., 2010). On the other hand, students with low learning motivation show reluctance, their attention is focused on playing online games during the COVID-19 period (Duta et al., 2015). Therefore, teachers must be able to apply the learning process in the classroom that can develop learning motivation in students (Anugrahana, 2020; Pradana & Casman, 2020).

According to the World Health Organization (WHO) the number of adolescents aged 6-18 years. About 900 million are in developing countries. Demographic data in the United States shows the number of adolescents aged 10-19 years is around 15% of the world’s population (Lutfiwati, 2018). In Asia Pacific shows the number of adolescents aged 10-19 years around 60% of the world’s population. Based on the results of the WHO study, it was found that 1 in 5 children aged less than 16 years experienced mental emotional problems. Children aged 4-15 years who experience mental emotional as much as 104 out of 1000 children (Rulandari, 2020; Sjukur, 2012). The incidence rate is higher in the age group above 15 years, which is 140 out of 1000 children.

According to the Central Bureau of Statistics in 2018, the number of school-age children in Indonesia was 237.6 million people, of which 63.4 million were teenagers aged 6-18 years consisting of 32,164,436 males (50.70%) and women as many as 31,279,012 people (49.30%). In 2017, the 10-19 year age group was 22%, consisting of 50.9% boys and 49.1% girls (BPS Indonesia, 2018). Based on data from the Central Statistics Agency (BPS) of Aceh Province, the number of school-age children aged 6-18 years with a percentage of 19.63% consisting of 10.27% males and 9.36% females (BPS Province Aceh, 2019).

Based on data from the Central Statistics Agency (BPS) of Bireuen Regency, the number of school-age children aged 6-14 years is 44,496 people, consisting of 23,076 males and 21,420 females. The number of school-age children aged 15-18 years with a percentage of 43,748 people consisting of 22,133 males and 21,615 females (BPS Kabupaten Bireuen, 2019).

**Previous research results**

The results of Theresia (2019), entitled The Relationship between Online Game Addiction and Learning Motivation in Junior High School Students in Bandar Lampung City in 2019. The results of the bivariate correlation analysis obtained p value = 0.000 and r value = 0.999. There is a significant relationship that is not in line with the strength of the very strong correlation between addiction to playing online games and learning motivation in junior high school students in the city of Bandar Lampung in 2019.
The results of Ulfa (2017), entitled the influence of online game addiction on adolescent behavior at the Game Center Headquarters. Handsome New Week. From the results of the analysis carried out with the results of hypothesis testing with a value of t count t table, or 4032.276 0.195, then the proposed hypothesis is accepted, meaning that there is an influence between online game addiction (X) on adolescent behavior (Y).

Based on an initial survey of 10 children during the COVID-19 pandemic, (Angela, 2013), it was found that 8 school-age children in their daily lives after learning online, the children immediately held their cell phones/smart phones to play online games until the afternoon caused by boredom in children and substitute friends, this resulted in their lack of motivation to learn. Meanwhile, 2 of their school-age children never hold their cell phones when they are at home, they only hold their cellphones when studying online and for school purposes. Based on the background and related research above, the researchers wanted to find out whether there is a relationship between addiction to playing online games with learning motivation in school-age children during the COVID-19 pandemic (Purwanto et al., 2020; Putria et al., 2020).

Method

The design of this research is analytic, namely research that tries to explore how and why health phenomena occur, with a Cross Sectional approach where data concerning the independent variable or risk and the dependent variable or effect variable, are collected at the same time (Sugiyono, 2017). With a cross sectional approach, which is a study to study the dynamics of the correlation between risk factors and effects, by approaching, observing or collecting data all at once (point time approach). The independent variable is addiction to playing online games. The dependent variable is the learning motivation of school-age children during the COVID-19 pandemic (Samsonova & Shkilev, 2021; Malik et al., 2021).

The population in this study were all school-age children aged 6-18 years, totaling 57 children (Moleong, 2018). The sampling technique in this study used a total sampling technique, the samples in this study were all school-age children aged 6-18 years, totaling 57 children.

Research instrument

a) Part A.
Respondent data consisting of age, last education, and gender.
b) Part B
The questionnaire used for online game addiction consists of 15 questions. Measurement of online game addiction using the Guttman scale, for each question the author makes an assessment score, if you answer "Yes" it is given a value of 1 and if you answer "No" it is given a value of 2, with the following categories:
1) Addicted, if x ≥ 27.
2) Not addicted, if x < 27.
c) Part C
The questionnaire used on learning motivation in the form of 15 questions using a Likert scale. For each positive statement the researcher makes an assessment score, if the answer is Always (SL): 5, Often (SR): 4, Sometimes (KK): 3, Rarely (J): 2, Never (TP): 1 and statements negative score if Always (SL): 1, Often (SR): 2, Sometimes (KK): 3, Rarely (J): 4, Very Never (TP): 5. with the following categories:
1) Yes, if \( x \geq 50 \).
2) No, if \( x < 50 \).

Data processing is a very important process in research. Therefore, it must be done properly and correctly. Data processing is done manually, namely through the stages:

**Checking data**

Researchers select or re-check the completeness of filling out the questionnaire from the existing questions so that no questionnaire is wasted. The questionnaires are sorted according to the number of respondents in the questionnaire paper. This process is to see if all data has been filled in according to the instructions and there are no errors in filling out the questionnaire during the research.

**Coding**

After all the data in the questionnaire was complete, the researcher did coding on all the answers or respondent information. Researchers provide answer codes in numbers or certain codes so that it is easier and simpler when data processing is carried out. For each statement the researcher makes an assessment score, if he answers "Yes" he is given a value of 1 and if he answers "No" he is given a value of 2.

**Data entry process**

In this process, the researcher entered the data into the master table. All data were entered carefully until the last respondent number. This data entry is done by filling in the columns or boxes in the master table according to their respective answers. For each statement the researcher makes an assessment score, if he answers "Yes" he is given a value of 1 and if he answers "No" he is given a value of 2.

**Tabulation**

The researcher groups the respondents based on the categories that have been made for the measured variables and are displayed in tabular form. The researcher separates the table of respondent characteristics, univariate analysis and bivariate analysis so that it is easier to understand for those who read.

Data analysis in this study, namely univariate analysis which aims to explain or describe each research variable. Bivariate analysis is an analysis conducted on
two variables that are suspected to be related or correlated. A chi-square test was performed with a significance level of 95% (α = 0.05).

**Results and Discussion**

**Result**

Based on Table 1 above, it was found that most school-age children were in the age range of 6-12 years, amounting to 28 respondents (49.2%).

**Table 2**
Frequency distribution of respondents' characteristics based on education (n=57)

<table>
<thead>
<tr>
<th>No</th>
<th>Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary school</td>
<td>26</td>
<td>45.6</td>
</tr>
<tr>
<td>2</td>
<td>Junior high school</td>
<td>24</td>
<td>42.1</td>
</tr>
<tr>
<td>3</td>
<td>Senior High School</td>
<td>7</td>
<td>12.3</td>
</tr>
<tr>
<td>Amount</td>
<td></td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 2 above, it was found that the education of school-age children was mostly in elementary education, amounting to 26 respondents (45.6%).

**Table 3**
Frequency distribution of respondents' characteristics based on length of game playing (n=57)

<table>
<thead>
<tr>
<th>No</th>
<th>Game-Play Time/Day</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≥ 4 o’clock</td>
<td>40</td>
<td>70.2</td>
</tr>
<tr>
<td>2</td>
<td>&lt; 4 o’clock</td>
<td>17</td>
<td>29.8</td>
</tr>
<tr>
<td>Amount</td>
<td></td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 3 above, it was found that the length of playing games for school-age children was 4 hours, totaling 40 respondents (70.2%).
Table 4
Frequency distribution of respondents' characteristics by gender (n=57)

<table>
<thead>
<tr>
<th>No</th>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Woman</td>
<td>18</td>
<td>31.6</td>
</tr>
<tr>
<td>2</td>
<td>Man</td>
<td>39</td>
<td>68.4</td>
</tr>
<tr>
<td></td>
<td>Amount</td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 4 above, it was found that the majority of respondents were male, totaling 39 respondents (68.4%).

Table 5
Frequency distribution of online game addiction (n=57)

<table>
<thead>
<tr>
<th>No</th>
<th>Addicted</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Addicted</td>
<td>40</td>
<td>70.2</td>
</tr>
<tr>
<td>2</td>
<td>Not addicted</td>
<td>17</td>
<td>29.8</td>
</tr>
<tr>
<td></td>
<td>Amount</td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 5 above, it was found that addicted to playing online games were more addicted to as many as 40 respondents (70.2%), compared to those who were not addicted to as many as 17 respondents (29.8%).

Table 6
Distribution of learning motivation in the COVID-19 pandemic period (n=57)

<table>
<thead>
<tr>
<th>No</th>
<th>Motivation to learn</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is</td>
<td>23</td>
<td>40.4</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>34</td>
<td>59.6</td>
</tr>
<tr>
<td></td>
<td>Amount</td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 6 above, it was found that the learning motivation of school-age children during the COVID-19 pandemic was more, which was not as many as 34 respondents (59.6%), compared to 23 respondents (40.4%).

Table 7
Relationship between online game addiction and learning motivation in school-age children during the COVID-19 pandemic (n=57)

<table>
<thead>
<tr>
<th>Addicted to Playing Online Games</th>
<th>Motivation for Studying During the COVID-19 Pandemic</th>
<th>Total</th>
<th>P Value</th>
<th>OR 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicted</td>
<td>10</td>
<td>30</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25.0%</td>
<td>75.0%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Not Addicted</td>
<td>13</td>
<td>4</td>
<td>17</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>76.5%</td>
<td>25.3%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>23</td>
<td>34</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40.4%</td>
<td>59.6%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
Based on Table 7 above, it shows that school-age children who are addicted to learning are more without motivation in learning as much as 30 (75.0%), compared to school-age children who are not addicted to online games where more have motivation to learn as much as 13 (76.5%). The results of the statistical test show that the p-value = 0.001, so that the p-value < α (0.05), it is proven that there is a relationship between addiction to playing online games and learning motivation in school-age children during the COVID-19 pandemic. From the analysis of the closeness of the relationship, it shows that the Odd Ratio (OR) value is 0.103, which means that respondents who are addicted to online games have a 0.103 times chance of no motivation in learning compared to respondents who are not addicted to online games.

Discussion

Characteristics of respondents

Based on the results of the study, it was found that the most school-age children were in the age range of 6-12 years, amounting to 28 respondents (49.2%). According to the assumption of researchers, addiction to online games has a direct impact on the interest and enthusiasm for learning for children aged 6-12 years who are in school, this is because children are new to using mobile phones so they are very interested in playing online games so that they forget their responsibility to learn as children school age.

A person who is addicted to online games spends 39 hours per week playing online games (Young, Karyanta, 2018). Online game addiction is the behavior of someone who wants to continue playing online games that spend a lot of time and it is possible that the individual concerned is unable to control or control it.

Based on the results of the study, it was found that the education of school-age children was mostly in elementary education, amounting to 26 respondents (45.6%) (Sani, 2015). Learning motivation is everything that can motivate students or individuals to learn. Without learning motivation, a student will not learn and ultimately will not achieve maximum learning outcomes. Researchers assume that elementary school children are left by their parents to be given mobile phones to play online games due to a lack of parental supervision, this is what causes children to be negligent, so they no longer care about learning (Kanca et al., 2020; Ginaya et al., 2021).

Based on the results of the study, it was found that the sex of the respondents was male, amounting to 39 respondents (68.4%). The researcher assumes that game addiction in male students is higher than female students who are addicted to playing online games. Men who are addicted to games can be seen from the component of addiction, namely excessive use in which a person forgets all his activities that dominate thoughts, feelings, and behavior (Rinartha & Suryasa, 2017). There are many students who are willing to set aside pocket money just to play games (Marlianti, 2015). This is due to the nature of online games that tend to be addictive or make players feel addicted to continue playing so that learning time is reduced.
Based on the results of the study, it can be concluded that these school-age children do not have the motivation to learn and in school-age children, this is because school-aged children spend more time playing online games than studying, which is caused by the COVID-19 pandemic where learning activities are carried out online and lack of parental supervision of children.

**The relationship between online game addiction and learning motivation in school age children during the COVID-19 pandemic**

Based on the results of the study, it was found that school-age children who were addicted to where there was no motivation in learning were 30 (75.0%), compared to school-age children who were not addicted to online games where more had motivation to learn as much as 13 (76.5%). The results of the statistical test show that the p-value = 0.001, so that the p-value <α (0.05), it is proven that there is a relationship between addiction to playing online games and learning motivation in school-age children during the COVID-19 pandemic.

**Impact of playing online games**

During the COVID-19 period for school-age children, among others, school-age children became difficult to concentrate on school, were often lazy and even skipped school, became indifferent or indifferent, disobedient and did not care about the things that happened around them. School-age children who are already addicted will do anything to be able to play online games during the COVID-19 period. The COVID-19 pandemic has forced most school-age children to work from home. Boredom then becomes their main enemy and is often overcome by playing online games (Anhar, 2014).

**Online games part of culture**

Online games as part of culture also affect learning motivation. From this, we can see that online games have a very negative impact on students (Marlianti, 2015). Games that are not educational, because the pictures are just fantasy, so they are just fun, and games are just a waste of money, time, and make someone lazy.

The Relationship between Online Game Addiction and Learning Motivation in Junior High School Students in Bandar Lampung City in 2019. The results of the bivariate correlation analysis test obtained p value = 0.000 and r value = 0.999. There is a significant relationship that is not in line with the strength of the very strong correlation between addiction to playing online games and learning motivation in junior high school students in the city of Bandar Lampung in 2019.

The influence of online game addiction on adolescent behavior at the Game Center Headquarters Jalan Hr. Subrantas District of Handsome Pekan Baru. From the results of the analysis carried out with the results of hypothesis testing with a value of t count t table, or 4032,276 0.195, then the proposed hypothesis is accepted, meaning that there is an influence between online game addiction (X) on adolescent behavior (Y).
Motivation to learn

With good learning motivation, it will give birth to good learning processes and results without thinking about other things, for example playing online games during the COVID-19 period (Anhar, 2014). On the other hand, students with low learning motivation show reluctance, their attention is focused on playing online games during the COVID-19 period (Yuliana, 2020). Therefore, teachers must be able to apply the learning process in the classroom that can develop learning motivation in students.

Based on the results of the study, there is a relationship between addiction to playing online games with learning motivation in school-age children during the COVID-19 pandemic, this is due to addiction to online games during the COVID-19 period causing a person to not be able to develop their abilities or skills in the field of science and not can gain knowledge or experience declining academics, addiction to online games during the COVID-19 period makes learning motivation decrease and worsen because students prioritize playing online games during the COVID-19 period compared to studying.

Conclusion

Based on the research, it was found that there was a relationship between addictions to playing online games with learning motivation in school-age children during the COVID-19 pandemic. The Learning Motivation of Middle School Students in Bandar Lampung City in 2019 are:

- Bivariate correlation analysis test with p value = 0.000 and r value = 0.999. There is a significant relationship
- Test the hypothesis with the value of t-count t-table, = 4032.276 0.195, then the hypothesis is accepted because there is an influence between online game addiction (X) on student behavior (Y).

Acknowledgments

Thank you to the Chair and LPPM STIKes Muhammadiyah Lhokseumawe who have given permission, and provided knowledge and direction as well as financial support so that this research can be carried out. Thanks also to all Gampong Cot Keumude officials, Peusangan District, Bireuen Regency who have participated in this research.

References


Angela, N. K. (2013). The Relationship between Child Characteristics and Personality with Bullying Incidents in Fifth Grade Students at SD "X" in Bandung Regency. COPING (Community of Publishing in Nursing), 3(3).


Marlianti, D. (2015). Relationship between Addiction to Playing Online Games with Sleep Patterns and Learning Motivation for Children aged 10-12 Years at SD Mattooangin 2, Mariso District, Makassar City. Essay. Faculty of Health Sciences UIN Alauddin Makassar.


Rinartha, K., & Suryasa, W. (2017). Comparative study for better result on query suggestion of article searching with MySQL pattern matching and Jaccard similarity. In *2017 5th International Conference on Cyber and IT Service Management (CITSM)* (pp. 1-4). IEEE.


Theresia, L. G. (2019). Relationship between Online Game Addiction and Academic Achievement of Students at the Faculty of Engineering, University of Indonesia. Essay. Depok: Faculty of Nursing U1.

