IJDS 2020; Vol. 7 No. 2, November 2020, pp. 151-155
ISSN: 2355-2158 e-ISSN: 2654-4148
DOI: dx.doi.org/10.21776/ub.ijds.2020.007.02.03
Cite this as:
Lina Dewi Anggraeni, Hany Wihardja. Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta. *Indonesian Journal of Disability Studies (IJDS)*. 2020: Vol. 7(2): pp. 151-155.

Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta

[1]Lina Dewi Anggraeni, [2*]Hany Wihardja

[1, 2]Nursing Department, Sekolah Tinggi Ilmu Kesehatan Sint Carolus, Central of Jakarta, Indonesia

Abstract Online game problems being a global concern because of the risk of having a negative impact in school-age children. Game online addiction is the excessive use of computers or video games due to urges that cause social or emotional problems. This research aims to identify the relationship between online game problems and learning achievement in senior high school students in Jakarta. This research is a quantitative study with a Cross-Sectional approach. The sampling method uses a technique of purposive sampling. The number of respondents in this study was 95 senior high school students at x public school, Central of Jakarta. The result of the bivariate analysis showed that there was no significant relationship between online gaming problems and learning achievement of a high school students in Jakarta (p-value = 0.242). The implication of this research shows that online gaming problems are not the only factor that can affect the learning achievement of high school children. The other factors that are likely to influence children's learning achievement include self-motivation, family social support, and the school social environment. Recommendation for parents to supervise their children in using gadgets and the school can strengthen the rules for using gadgets in schools.

Keywords: *Addiction, Learning achievement, Online game, Student*

1. Research background

The online game is a form of creativity from the development of technology and telecommunications facilities. In Indonesia, the Internet began in the 2000s and continues to grow rapidly in all circles of Indonesia. According to the Ministry of Communication and Information, the Indonesian people are one of the highest users of high technology communication devices in Southeast Asia. In 2013, Indonesia ranked at 5th in the country with the highest number of mobile and computer users in the world, as many as 236.8 million cellular users (Marius & Pinontoan, 2013).

The development of high-tech communication tools has a positive and negative impact on users. The positive impact of technology utilization includes simplifying and accelerating access to information and facilitating the communication process. A communication tool also provides game features to be a source of entertainment for its users. The negative impacts that can arise from the use of technology include the emergence of a culture of plagiarism, the ease to expose the issues of violence and pornography; neglect of work due to the intensity of excessive use of technological tools, and addiction of using the gadgets (Kende, 2014).

The negative impact has continuously occurred in the community over the past 10 years. Supported by easy internet access on communication devices and computers, this will make it easier for users to search for entertainment features, especially games. Addiction is a form of behavioral or substance dependence (Alam et al., 2014). Game addiction is defined as the use of an excessive computer or video games and or because of the constant encouragement that causes social or emotional problems (Soleymani et al., 2016).

Game addiction is included in The *Diagnostic and Statistical Manual* of Mental Disorders (DSM) 5 in the third session, and described as "the habit of playing games or re-playing excessive internet games is more due to the influence of other players, or the existence

* Corresponding author: Hany Wihardja
hanywihardja01@gmail.com
Published online at ijds.ub.ac.id
Copyright © 2020PSLD UB Publishing. All Rights Reserved

Received, November 25, 2019 Revised, March 28, 2020 Accepted, May 21, 2020

IJDS 2020; Vol. 7 No. 2, November 2020, pp. 151-155
ISSN: 2355-2158 e-ISSN: 2654-4148
DOI: dx.doi.org/10.21776/ub.ijds.2020.007.02.03

of factors that cause pressure or distress on the player's self"(Petry et al., 2015). Two main factors influence a person's behavior to be an online game addict, which are internal and external factors (Király et al., 2015).

Chen et al (2018) argue the internal factors are related to individuals who are lonely or do not have good social skills can form compulsive behaviour in the use of the Internet is strong to cause dependency behaviour. While for external factors, Pande & Marheni (2015) argue that individuals who are at risk of becoming addicted are those who have the availability of internet facilities and can browse for more than 4 hours in a day. Centre for Public Communication of the Secretary-General of the Ministry of Health of the Republic of Indonesia (Kholidiyah, 2013), released that Soeharto Heerdjan Grogol Mental Hospital has increased the number of child and adolescent patients who are addicted to the game. In 2012, game addiction cases increased to 11 cases from only 1-2 cases per year. School-age children are the largest age group of online game users in the world, so they are at risk of getting an impact on their learning achievement in schools.

The condition of game addiction needs to be handled as early as possible because it can affect all aspects of a person's life. The user who plays compulsively, cause themselves no longer interested in the surrounding environment. There are even game players being disrupted on their work and academic because they spend too much time playing games online (Anggarani, 2015). Since 2012, an increase in the prevalence of sufferers of internet game addiction is estimated at 1.2 billion game players worldwide, 84 millions of whom are residents of Southeast Asia. In Indonesia, in 2012 it was found that 19 million people were online game users, in 2013 the number increased to 23 million, and it was estimated that in 2014 the number of online game users in Indonesia was around 26 million (Marius & Pinontoan, 2014). The purpose of this study was to identify the relationship between online gaming problems and the achievement of learning outcomes in senior high school students in Jakarta.

2. Research method

2.1 Study participants and design

This research is a quantitative study with questionnaires and retrospective methods using a Cross-Sectional approach. The sampling method uses senior high school students in Jakarta and is conducted in February until March 2017. The sampling method uses a technique of purposive sampling. The number of respondents in this study was 95 senior high school students at X public school, Central of Jakarta.

2.2 Inclusion and exclusion criteria

The inclusion criteria of the study sample were senior high school students in public school x who had the habit of playing online games so that if students did not have these habits they were not used as research samples.

2.3 Data collection and analysis

The instrument in this study is a modified questionnaire that refers to the theory of Conrad (2013) and secondary data which is student scores in the last semester. Research ethics conducted in this study is the ethics of anonymity by not including the names of respondents in the instruments and research results, and confidentiality that the researcher will guarantee the data from the subjects.

Questionnaire instruments also have been tested questionnaires conducted at Public High School 30 Rawasari, Central Jakarta (not a research place). The purpose of the questionnaire testing was to improve the questionnaire and find any difficulties or problems in answering the questionnaire. The results of alpha r> 0.04 then the questionnaire can be declared valid, and the Cronbach-Alpha test results on 30 student respondents obtained an alpha value of 0.942 so that the questionnaire can be used because it has been reliable.

The data was analyzed using the SPSS computer statistical software programs for analyzing quantitative research data. Data was analyzed descriptively by computing the frequencies and percentage of demographic data. A Chi-Square test used to determine the relationship between online gaming problems and the achievement of learning outcomes in senior high school students in Jakarta.

Cite this as:
Lina Dewi Anggraeni, Hany Wihardja. Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta. *Indonesian Journal of Disability Studies (IJDS)*. 2020: Vol. 7(2): pp. 151-155.

IJDS 2020; Vol. 7 No. 2, November 2020, pp. 151-155
ISSN: 2355-2158 e-ISSN: 2654-4148
DOI: dx.doi.org/10.21776/ub.ijds.2020.007.02.03

3. Result and discussion

The result of this study was obtained through processing research instruments. Characteristic data of school-age children (Table 1) found that 54.7% of students are 17 years old, 51.6% of students with sciences class, 57.9% are male, and 91,6% students have an online game problem. Most children have an average achievement (69,5%) (Table 2). This score determination is taken from the last semester score based on minimum completeness criteria (< 84).

The result of the relationship analysis showed that statistical test obtained p-value = 0,242 (α 0,05) hence can be concluded there is no relationship of a problem of online game with student learning achievement in high school student in Public High School in Jakarta (Table 3).

Table 1. The Characteristics of the Senior High School Students based on Age, Major, Sex, and Online Game Problems (N=95)

Variable	n	%
Age		
15 years old	3	3,2
16 years old	36	37,9
17 years old	52	54,7
18 years old	4	4,2
Major		
Sciences Class	49	51,6
Social Class	46	48,4
Sex		
Male	55	57,9
Female	40	42,1
Online Game Problems		
Student with online game problem	87	91,6
Student without online game problem	8	8,4

Table 2. The Characteristics of the Senior High School Students based on Learning Achievement (N=95)

Variable	n	%
Learning Achievement		
Average achievement (Score minimum completeness criteria ≥84)	66	69,5
Good achievement (Score minimum completeness criteria <84)	29	30,5

The results of the univariate analysis of 95 high school students who were online game players were 91.6% of students showing the impact of online games on these students. Online games are described as games that can be run from an internet browser and require an internet connection (Novrialdy, 2019). Students who play online games can be classified as having online gaming problems and are not affected by online gaming problems.

Table 3. Relationship between Online Game Problems with Learning Achievement in School-Age Children (N=95)

Game online problems	Learning achievement				OR CI 95%	*p-value*
	Average		Good			
	N	%	N	%		
Student with game online problems	62	71,3	25	28,7	0,403 0,903-1,739	0,242
Student without game online problems	4	50	4	50		
Total	66	69,5	29	30,5		

Bavelier et al (2011) argue that online game problems in users are a change or pathology of gaming habits. The changes indicated by an increase in the intensity of playing, influence on the emotional and psychological effect of the player, and the game online become a diversion from the actual situation. Continuous online game problems can also lead to disruption of social relationships and decreased motivation to learn due to changes in priorities as online game users.

Online gaming addiction is often associated with playing more than 10 hours per day. At the addiction stage, the psychological effects that can occur are that a child becomes anxious, irritable, emotional, and has difficulty concentrating. If addiction is not resolved it will interfere with the cognitive function of a child (Ng & Wiemer-Hastings, 2015).

The results of the bivariate analysis showed that there was no significant relationship between online game problems and the learning achievement of school-age children. This result contradicts the study by Amini (2012) that there is a relationship between online game addiction and student achievement (p=0,005). Granic et al (2014), a

Cite this as:
Lina Dewi Anggraeni, Hany Wihardja. Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta. *Indonesian Journal of Disability Studies (IJDS)*. 2020: Vol. 7(2): pp. 151-155.

IJDS 2020; Vol. 7 No. 2, November 2020, pp. 151-155
ISSN: 2355-2158 e-ISSN: 2654-4148
DOI: dx.doi.org/10.21776/ub.ijds.2020.007.02.03

research expert on the Behavioral Sciences Institute, Radboud University, argue that not all online game users will show a negative impact on their educational achievement. School-age children who play online games can experience increased collaboration skills, competitiveness, social competence, cognitive competence, and peer acceptance.

Motamedi & Bakhtiary (2014), an expert on neuroscience, explain the relationship between increased brain chemical substances and playing online games. This brain chemical substances are located in the frontal-parietal lobe. The substance appears to be more active as long as a person is given a game pattern challenge compared to non-games. The impact of these substances is the active regulation of attention or concentration of the brain, so it is useful to increase the work of brain cells.

The number of other factors that can affect learning achievement also justifies that online game problems are not the main determining factor in children's achievement. Brawer & Buckwalter (2015) argues that there are internal and external factors that can affect a child's learning achievement. The most influential internal factor is Intelligence Quotient 20% and Emotional Quotient 80% which includes self-motivation, the ability to deal with frustration, regulate mood, socialize, and cooperate. External factors that influence are family support, economic factors, and school factors.

Emotional intelligence can be affected by stimuli from online gaming. Games can be used as a source of refreshment so that students do not easily experience frustration and boredom with their education. The habit of playing online games can even improve socialization and collaboration skills with peers. Thus, the online game just only one part of external factors that are not sufficiently influencing learning achievement directly due to the many other confounding factors (Damaiyanti & Rahmah, 2017). The limitation in this study, researchers did not examine confounding factors of learning achievement.

4. Conclusion

The conclusion from the results of this study is that there is no relationship between high school students' learning achievement and the problem of online games in Jakarta. Online gaming is only one substance from external factors that cannot independently affect learning achievement directly because of many other confounding factors. However, this research can be a reference to the behavior of online game for nursing students that might be a consideration for changes in their learning achievement.

The recommendations that can be given are all the schools in Indonesia must have the regulations regarding the use of cell phones during school hours and optimize the mentoring process for each student at the school. Further, teachers and parents might consider being functional in all their responsibilities. For example, the teacher might consider notifying the parents about the academic achievement of the students inside the school facilities. This association can strengthen home and school partnerships to supervise the students' activities.

Bibliography

Alam, S. S., Hashim, Nik Mohd. Hazrul Nik Ahmad, M., Wel, Che Aniza Chel Nor, S. M. N., & Omar, N. A. (2014). Negative and positive impact of internet addiction on young adults: Empericial study in Malaysia. Omnia Science, 3(10), 619–638. https://doi.org/10.4090/juee.2014.v8n1.118133

Amini, S. (2012). Hubungan perilaku kecanduan game online dengan prestasi belajar siswa di SMPN 4 Padang tahun 2012. Jurnal Warta Pengabdian Andalas.

Anggarani, F. K. (2015). Internet gaming disorder: Psikopatologi budaya modern. Buletin Psikologi, 23(1), 1–12. https://journal.ugm.ac.id/buletinpsikologi/article/view/10572/7967

Bavelier, D., Green, C. S., Han, D. H., Renshaw, P. F., Merzenich, M. M., & Gentile, D. A. (2011). Brains on video games. Nature Reviews Neuroscience, 12(12), 763–768. https://doi.org/10.1038/nrn3135

Brawer, J. W., & Buckwalter, J. G. (2015). Violent video games may kill your short-term focus: Violent video games may negatively affect a player's attention and concentration on a short- term basis after brief exposure. Journal of Young Investigators, 29(3), 7–10.

Cite this as:
Lina Dewi Anggraeni, Hany Wihardja. Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta. *Indonesian Journal of Disability Studies (IJDS)*. 2020: Vol. 7(2): pp. 151-155.

Chen, K. H., Oliffe, J. L., & Kelly, M. T. (2018). Internet gaming disorder: An emergent health issue for men. American Journal of Men's Health, 12(4), 1151–1159. https://doi.org/10.1177/1557988318766950

Conrad, B. (2013). Why are video games addictive? Principles of Addiction, 819–825. https://doi.org/10.1016/B978-0-12-398336-7.00082-6

Damaiyanti, M., & Rahmah, D. F. (2017). The relation of educational level, academic achievement (GPA) and depression among public school adolescent. Indonesian Journal of Nursing Practices, 1(3), 83–90. https://doi.org/10.18196/ijnp.1365

Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. American Psychologist Journal, 69(1), 66–78. https://doi.org/10.1037/a0034857

Kende, M. (2014). Internet society global internet report 2014. In Internet Society. http://www.internetsociety.org/doc/global-internet-report%5Cnhttps://www.internetsociety.org/sites/default/files/Global_Internet_Report_2014.pdf

Kholidiyah, U. (2013). Hubungan antara intensitas bermain game online dengan kecerdasan emosi. In Jurnal Ners.

Király, O., Griffiths, M. D., & Demetrovics, Z. (2015). Internet gaming disorder and the DSM-5: Conceptualization, debates, and controversies. Current Addiction Reports, 2(3), 254–262. https://doi.org/10.1007/s40429-015-0066-7

Marius, P., & Pinontoan, F. (2013). Indonesian internet usage for bussiness sector 2013. Asosiasi Penyelenggara Jasa Internet Indonesia.

Marius, P., & Pinontoan, F. (2014). Indonesia internet usage for business sector 2013 (D. Herawan (ed.)). Asosiasi Penyelenggara Jasa Internet Indonesia. www.apjii.or.id

Motamedi, V., & Bakhtiary, L. (2014). The impact of computer games on creativity and academic achievement of students. Sky Journal of Educational Research, 2(3), 15–19.

Ng, B. D., & Wiemer-Hastings, P. (2015). Addiction to the Internet and online gaming. Cyberpsychology and Behavior, 8(2), 110–113. https://doi.org/10.1089/cpb.2005.8.110

Novrialdy, E. (2019). Kecanduan game online pada remaja: Dampak dan pencegahannya. Buletin Psikologi, 27(2), 148. https://doi.org/10.22146/buletinpsikologi.47402

Pande, N. P. A., & Marheni, A. (2015). Hubungan kecanduan game online dengan prestasi belajar siswa SMP Negeri 1 Kuta. Jurnal Psikologi Udayana, 2(2), 163–171.

Petry, N. M., Rehbein, F., Ko, C. H., & O'Brien, C. P. (2015). Internet gaming disorder in the DSM-5. Current Psychiatry Reports, 17(9), 0–9. https://doi.org/10.1007/s11920-015-0610-0

Soleymani, M. R., Garivani, A., & Zare-Farashbandi, F. (2016). The effect of the internet addiction on the information-seeking behavior of the postgraduate students. Materia Socio Medica, 28(3), 191. https://doi.org/10.5455/msm.2016.28.191-195

Cite this as:
Lina Dewi Anggraeni, Hany Wihardja. Online Game, Addiction and Learning Achievement of Senior High School Students in Jakarta. *Indonesian Journal of Disability Studies (IJDS)*. 2020: Vol. 7(2): pp. 151-155.