



The Physical Health Impacts of Playing Habits Online Games on Students

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Abstract: Online games are accessed via the internet, and online games can make someone forget the time and addicted. The World Health Organization has categorized game addiction as a mental disorder, and game addiction has many adverse effects, primarily physical health. This study aims to determine the impact of physical health from the habit of playing online games. This study uses a qualitative method with a phenomenological approach. With the incidental sampling technique, this study involved six students who like to play online games. The instrument used was a human instrument with interview guidelines. The triangulation technique used was method triangulation, namely, by using a gaming addiction scale, and the analysis used was content analysis. All participants experienced online game addiction (100%), then the health impacts of playing games were fatigue and feeling dizzy. Besides that, participants have the risk of gastritis and urinary tract infections because they often delay eating and delay urinating. When playing the game, the participants do not want to leave the game because they are not satisfied and cannot control themselves while playing the game. For participants to be able to prioritize physical needs such as rest, eat, drinking, and urinating and defecating, participants can limit their hours of playing games to a maximum of two hours a day to reduce the risk of harmful health impacts.

Keywords: Health Impact, online games, habits, playing games, students.

INTRODUCTION

Currently, games are experiencing rapid development, and games in great demand today, namely online games. Online games are digital games that operate on computers, PlayStations, and smartphones using the internet network (Masya & Candra, 2016). Online games are slightly different from other games because they can play online games with different people from their location (Young, 2007). Someone who plays online games often forgets the time and tends to experience game addiction or often called a gaming disorder (Syahrani, 2015).

Game addiction is the excessive use of games for a very long time (Susanti, Widodo, & Safitri, 2018). Game addiction has been categorized as a mental disorder and needs special attention (WHO, 2018). The prevalence of game addiction in Indonesia is estimated that there are 2.7 million game players who may be addicted (Newzoo, 2017).

According to the researchers' results, it was found that participants have made online games a necessity of life, where every day the participants always play games both morning, afternoon, and night. When playing online games, participants often ignore physical needs, such as eating, sleeping, and participants often hold back or delay urinating. According to the results of the interview, it was found that one of the participants said that he often played 2-4 hours a day. When playing games, he often delayed eating and delayed urinating due to focus and not leaving the game.

According to Abraham Maslow, physical needs are one of the basic needs that every individual must meet, and if basic needs are not met, it can hurt health (Sari, 2018; Syahrani, 2015). A study says that someone who is addicted to games often forgets to drink and forgets to sleep (Ayu & Saragih, 2016). Research results say that people who are addicted to video games have poor health and heart disease ratings (Shiue, 2015).

Besides, research by Sinanto and Djannah (2020) found that the health effects of game addiction are changes in diet, changes in sleep patterns that have negative impacts, such as gastritis and anaemia in gamers. Then the results of Edrizal research (2018) found that one of the effects of online game addiction that appears is a lack of attention to health conditions. This is related to habits that are at risk of causing disease. This study indicates that internet addiction (internet addiction) has more negative impacts than positive impacts. Also, Ghuman and Griffiths (2012) found that gaming disorder causes terrible effects, one of which is for health.

Based on the description above, the researcher formulated a research problem: how the physical health impact of playing online games? The goal is to determine how physical health impacts playing online games by the formulation of the problem.

METHOD

This study uses a qualitative method with a phenomenological approach to describe the health impacts of playing online games. The sampling method used was incidental sampling, then the sample used was six students who actively played the game. The data collection method was by interview and observation,

then the triangulation technique used was the triangulation method using the gaming addiction scale. Then the analysis used is content analysis. Researchers used Ethical Clearance in this study, with the number: 012010055.

RESULTS AND DISCUSSION

Results

Characteristics of Participants

The number of participants in this study was six people, while the characteristics of the participants in this study were as follows:

Table 1. Frequency Distribution of Participant Characteristics

Characteristics	Demographics	Amount	Percentage (%)
Gender	Man	6	100.0
Age	21-24 years	6	100.0
Profession	Student	6	100.0

Source: Primary Data, 2020

Based on table 1, it can be seen that the participants in this study amounted to six people, all of whom were male, and aged 21 to 24 years, then all participants had status as students.

THE HABIT OF PLAYING ONLINE GAMES

All participants in this study had played games for more than six months. Participant 1 and participant 6 said they had played the game more than five years ago, then participant 2 and participant 3 had played from three years ago, while participant 4 played for four years. Ago and participant 5 has been playing since one year ago.

"I started playing the game in high school" (Participant 1).

"Yes, it's been quite a while, it's been three years" (Participant 2).

"For the mobile legend from the beginning of 2017, bro, that means how much has it been?" (Participant 3).

"It's been almost four years like that" (Participant 4).

"E might have been a year mas" (Participant 5).

"Maybe around 2015, the COC was routinely played" (Participant 6).

Also, all participants said that they played the game for more than three hours a day. Participant 1, participant 3, participant 5, and participant 6 said that they played more than five hours in a day. Participant 2 said a day spent 19 hours playing games, and participant 4 said in a day playing games for six hours.

"In a day it can be up to five hours" (Participant 1).

"Sometimes more" (Participant 1).

"If I play it's possible, we can count that in one day there are 24 hours, in that 24 hours I sleep in a day maybe only five hours and the rest is for me to play games" (Participant 2).

"In a day it's uncertain, bro, sometimes it's three hours, sometimes four hours, sometimes five hours" (Participant 3).

"Sometimes it can take up to seven hours" (Participant 3).

"Usually, if you play one day it can be four or up to six hours" (Participant 4).

"E can be more than three hours, four hours, five hours" (Participant 5).

"That was about five hours of excess, it could even be more than five hours" (Participant 6).

"It's fun to make addiction, now I definitely play until the whole day" (Participant 6).

According to participants with a habit of always playing games for more than three hours, they forgot to eat.

"Yes, I often delay eating and drinking while playing games" (Participant 1).

"Oh yes, for sure, especially when we are having fun right, we are sure when we are having fun when playing the game, there are points, for example, the points are less than five, oh bear, so play first, let's eat it later" (Participant 2).

"Yes-yes, if you postpone eating it is okay, because it is nagging, bro. If for example, you are in the middle of a game, it's fun to eat first, stay hungry first" (Participant 3).

"Often, usually delay eating" (Participant 4).

"Ee ... sometimes you forget, bro, if you're fun playing the game, so to eat, for example, you should forget to eat at this hour, postponed, postponed like that" (Participant 5).

"Yes, that's for sure, especially when I am playing" (Participant 6).

According to the participants, the fun of playing games made them delay urinating frequently.

"Yes often" (Participant 1).

"If you postpone peeing, yes, especially when you play we are often on the second floor, so the bathroom is below, so if you want to go down lazy, you will be delayed" (Participant 2).

"Often" (Participant 3).

"Often" (Participant 4).

"Yes, almost every day, mostly even, often" (Participant 5).

"When you are fun, you suddenly want to pee, then just delay peeing" (participant 6).

Health Impact

According to all participants, the consequences of playing games are fatigued due to lack of sleep, frequent staying up late, then sleeping only during the day, and feeling dizzy.

"Because maybe the effect is fatigue, until dawn usually" (Participant 1).

"Often, our days, especially the gamers we are active at night because during the day we sleep" (Participant 2).

"Yes, not getting enough sleep" (Participant 3).

"You know, usually from staying up late, when I want to sleep it feels tired" (Participant 4).

"Maybe it can interfere with concentration too, because you often play games, so what do you do, it disturbs our sleep needs usually" (Participant 5).

"Yes, it is very often, sleep can last until five o'clock" (Participant 6).

According to all participants, when they played the game, they did not want to leave the game because they were not satisfied and could not control the time limit for playing the game. They often did not care about the health or pain experienced and the risks caused, and they continued to play even though they felt unwell.

"At least after playing the game, yes it is not satisfied, so play again, play again, after playing the one game, playing the other, until really tired, then take a break" (Participant 1).

"Yes, often bro, usually my eyes are red and sore, so if it hurts, I usually wash it again, and if it hurts too much I take a break and then continue again" (participant 2).

"No, I can't, sometimes I think I just want to play two games, but often for hours" (Participant 3).

"Usually it takes a break, if what, it's not too heavy, for example, the head is a little dizzy, I will definitely continue, but if I feel a little tired, I will definitely rest" (Participant 4).

"Yes, I play games, I keep playing games, usually when I am tired of sitting down and lying down, after I lie down I sit down again, I usually do" (Participant 5).

"Yes, it continues, until that morning it is certain to be tired, but keep on going" (Participant 6).

DISCUSSION

According to the results of the study, it was found that all participants in this study amounted to six people, all of them male. Based on the results of research by Miswanto, Armitasari, and Muhazir (2020), it was found that the level of online game addiction in male students was in the medium category with a percentage amounted to 68.48%. The research results also support this by Chen, Oliffe, and Kelly (2018), that adolescents and adult men show the use of internet games that is much more addicting. Based on this study's results, it can be evidence that the level of game addiction in male gender is higher than that of the female gender.

Then the ages of all participants are in the late adolescent category, namely 21-24 years, according to the National Family Planning Coordination Agency for adolescents aged 10-24 years (Adjie, 2013). Also, data states that most game players in the world are 21-35 years old (Newzoo, 2017). This is in line with the of Brand, Todhunter, and Jervis (2017), which found that adolescents often experience game addiction. According to research by Yosephine and Lesmana (2020), there is a positive relationship between parenting styles and the tendency for online game addiction in late adolescents. This study indicates that late adolescents are very vulnerable to game addiction because, at that age, adolescents are looking for identity and have a play environment that develops according to time.

Participants in this study are students who have the habit of playing online games, and students can be categorized as young adults. This is supported by research, according to Tateno et al. (2019), that there is a tendency that young adult men prefer games in internet use. The results of this study are in line with the research of Nasution, Effendy, and Amin (2019) that all age categories can experience online game addiction. Based on this description, it can be concluded that game addiction can occur in all age groups who like to play online games.

All participants in this study have been playing games for more than six months, according to Lemmens, Valkenburg, and Peter (2009), someone meets the criteria for online game addiction determined within six months. Besides, participants play games for more than three hours a day and sometimes forget the time. Playing games can make participants lose track of time because they are fun to play, and playing for more than three hours can also be categorized as an addiction. According to Anggarani (2015), game addiction is persistent and continuous in a game for quite a long time. Besides, game addiction's main characteristic is playing more than three hours a day (Lili & Nuryono, 2015). These results are supported by triangulation of the method using the gaming addiction scale. It was

found that all participants experienced addiction or game addiction with a high category of (100%).

Internet gaming disorder is a condition in individuals who play games repeatedly and continuously (Feng, Ramo, Chan, & Bourgeois, 2017). Addiction to online games makes them forget to eat and delay eating. All participants often forget to eat due to playing for a long time, playing for more than three hours. This result is supported by Susanti *et al.* (2018)'s research that there is a relationship between online games on smartphones and patterns eat. Research by Van Den Eijnden, Koning, Doomwaard, Van Gurp, and Bogt (2018), found that symptoms of gaming and social media use disorders have a negative effect on adolescents. According to the results of this study, it is concluded that someone who is addicted to online games negatively influences him.

Playing online games for a long time makes participants often hold pee. This will give participants the risk of experiencing an infection in the urinary tract. Sari research (2018) shows a relationship between the habit of holding back urination and urinary tract infection. This study's results show that the habit of participants who often hold urine will pose a severe risk.

Playing online games for a long time can also result in participants staying up late, so they experience fatigue and feel dizzy. This is by the research of Van Den Eijnden *et al.* (2018), which found that gaming and social media use disorders hurt adolescents. Then Fitriana research (2019) found a long relationship between playing online games and disturbed sleep patterns. This study results from what researchers found that participants often stay up late to play online games. The same results were also found in the research of Zhang and Wu (2020), that addiction to smartphones shows poor sleep quality.

Besides, research says that addiction to games makes participants ignore physical health (Sinanto & Djannah, 2020). One of the habits that participants often do is lack of sleep. This habit can cause fatigue because participants often play games until they lose track of time, even staying up late every night to play games. Sleepless than eight hours provides poor sleep quality and can put participants at risk of deficiency in haemoglobin levels, leading to heart disease due to excessive heart compensation due to lack of rest. According to the results of research by Mawo, Rante, and Sasputra (2019), there is a relationship between sleep quality and haemoglobin levels. There is research saying that people who are addicted to video games have poor health and heart disease ratings (Shiue, 2015).

When playing the game, the participants did not want to leave the game because they were not satisfied and could not control the time limit for playing the

game. The participants continued to play even though they felt unwell. The results of the study are by Edrizal's (2018) research that the impact that arises because of addiction to playing online games is spending a lot of time in front of a computer or internet cafe with a long duration, forgetting about learning time, and lack of attention to the health condition of their bodies. Research by Ghuman and Griffiths (2012) states that gaming disorder results in harmful effects, one of which is health. Besides, studies say that someone who is addicted to online games has a weak immune system due to lack of physical activity, lack of sleep, and frequent meals late (Männikkö, Billieux, & Käriäinen, 2015).

Besides, there is research that says that if the behaviour of playing online games is repeated and accustomed to, the dopaminergic pathways in the brain will strengthen and persist, leading to addiction, which in turn will strengthen the reactive system and weaken the reflective system so that cognitive abilities decline and make it difficult in, controlling self-control (Lutfiwati, 2018). Kuss (2013) says that online game addiction can trigger changes in activity and structures in brain areas involving motivation, memory, and control. This is related to participants who do not want to leave the game because they cannot control themselves in playing the game.

There is research that using excessive time to play games will interfere with everyday life (King & Delfabbro, 2018). Ghuman and Griffiths (2012) said that the problem that arises from playing excessive games, one of which is loss of control over time, this is in line with what the researchers found that participants as a whole find it difficult to change habits because they feel used to the habit of playing games for a long time long.

CONCLUSION

According to the results of the study, it was found that all participants experienced online game addiction with a high category (100%), and all were male. The ages of all participants were in the late adolescent category, namely 21-24 years. Overall, the participants in this study were students, experienced a game addiction and liked playing games. There are physical health effects due to game addiction, such as fatigue and feeling dizzy. Besides that, participants have the risk of gastritis and urinary tract infections because participants often delay eating and delay urinating. When playing the game, the participants do not want to leave the game because they are not satisfied and cannot control themselves while playing the game.

SUGGESTION

For online game players to be able to prioritize physical needs such as rest, eating, drinking, and urinating and defecating, participants can also limit

their playing hours to a maximum of two hours a day to reduce the risk of health impacts.

12(1), 77–95.
<https://doi.org/10.1080/15213260802669458>.

REFERENCES

- Adjie, J. M. S. (2013). Adolescent Reproductive Health in Social Aspects. Indonesian Pediatric Society. Retrieved January 21, 2020, from <http://www.idai.or.id/artikel/seputar-kesehatan-anak/kesehatan-reproduksi-remaja-dalam-aspek-sosial>.
- Anggarani, F. K. (2015). Internet Gaming Disorder: Psychopathology of Modern Culture. *Psychology Bulletin*, 23(1), 1. <https://doi.org/10.22146/bps.10572>.
- Ayu, L., & Saragih, S. (2016). Social Interaction and Self-Concept with Online Game Addiction in Early Adults. *Persona:Jurnal Psikologi Indonesia*, 5(02), 167–173. <https://doi.org/10.30996/persona.v5i02.734>.
- Brand, J. E., Todhunter, S., & Jervis, J. (2017). *Digital Australia 2018 (DA18)* (Bond University). Retrieved from <https://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>.
- 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>.
- Edrizal, E. (2018). The Effect of Student Addiction on Online Games (A Study of the Habits of Students Playing Online Games) at SMP N 3 Teluk Kuantan. *JURNAL PAJAR (Education and Teaching)*, 2(6), 1001. <https://doi.org/10.33578/pjr.v2i6.6543>.
- Feng, W., Ramo, D. E., Chan, S. R., & Bourgeois, J. A. (2017). Internet gaming disorder: Trends in prevalence 1998–2016. *Addictive Behaviors*, 75(2016), 17–24. <https://doi.org/10.1016/j.addbeh.2017.06.010>.
- Fitria, R. (2019). Old Games Online Games Against Student Sleep Pattern Disorders. *Real in Nursing Journal*, 2(2), 72. <https://doi.org/10.32883/rnj.v2i2.484>.
- Ghuman, D., & Griffiths, M. D. (2012). A Cross-Genre Study of Online Gaming: Player Demographics, Motivation for Play, and Social Interactions Among Players. *International Journal of Cyber Behavior, Psychology and Learning*, 2(1), 13–29. <https://doi.org/10.4018/ijcbpl.2012010102>.
- King, D. L., & Delfabbro, P. . H. (2018). *Internet Gaming Disorder : Theory, assesment, treatment and prevention*. New York: Academic Press.
- Kuss, D. J. (2013). Internet gaming addiction: Current perspectives. *Psychology Research and Behavior Management*, 6, 125–137. <https://doi.org/10.2147/PRBM.S39476>.
- Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2009). Development and validation of a game addiction scale for adolescents. *Media Psychology*, 12(1), 77–95. <https://doi.org/10.1080/15213260802669458>.
- Lili, F. M., & Nuryono, W. (2015). Application of Family Counseling to Reduce Online Game Addiction in Class Viii Junior High School 21 Surabaya. *Jurnal BK*, 05(01), 65–72. Retrieved from <https://jurnalmahasiswa.unesa.ac.id/index.php/jurnal-bk-unesa/article/view/10396>.
- Lutfiwati, S. (2018). Understanding Online Game Addiction Through a Neurobiological Approach. *Journal of Psychology*, 1(1), 1–16. Retrieved from <http://ejournal.radenintan.ac.id/index.php/anfusina/article/view/3643>.
- Männikkö, N., Billieux, J., & Käriäinen, M. (2015). Problematic digital gaming behavior and its relation to the psychological, social and physical health of Finnish adolescents and young adults. *Journal of Behavioral Addictions*, 4(4), 281–288. <https://doi.org/10.1556/2006.4.2015.040>.
- Masya, H., & Candra, D. A. (2016). Factors Affecting Online Game Addiction Disorder Behavior In Class X Students at Madrasah Aliyah Al Furqon Prabumulih. *Guidance and Counseling Journal*, 03(1), 17. Retrieved from <http://ejournal.radenintan.ac.id/index.php/konseli/article/view/575>.
- Mawo, P. R., Rante, S. D. T., & Sasputra, I. N. (2019). Relationship between Sleep Quality and Hemoglobin Levels in Undana Faculty of Medicine Students. *Cendana Medical Journal*, 17(2), 158–163.
- Miswanto, E., Armitasari, A., & Muhazir, M. (2020). Online Game Addiction in terms of Gender Male and Female. *Mengukuhkan Eksistensi Peran BK Pasca Pandemi Covid-19 Di Berbagai Setting Pendidikan*, 43–51. Retrieved from <http://conference.um.ac.id/index.php/bk2/article/view/79>.
- Nasution, F. A., Effendy, E., & Amin, M. M. (2019). Internet gaming disorder (IGD): A case report of social anxiety. *Open Access Macedonian Journal of Medical Sciences*, 7(16), 2664–2666. <https://doi.org/10.3889/oamjms.2019.398>.
- Newzoo. (2017). The Indonesian Gamer 2017. Retrieved February 18, 2021, from <https://newzoo.com/insights/infographics/the-indonesian-gamer-2017/>.
- Sari, R. P. (2018). Urinary Tract Infection (UTI) and Risk Factors Affecting Female Employees at the University of Lampung Event Numbers Urinary Tract Infection (Uti) and Risk Factors that Affecting on Female Employees In University of Lampung. *Majority*, 7(3), 115–120. Retrieved from http://digilib.unila.ac.id/24540/18/SKRIPSI_TANPA_BAB_PEMBAHASAN.pdf.
- Shiue, I. (2015). Self and environmental exposures to drinking, smoking, gambling or video game addiction are associated with adult hypertension, heart and cerebrovascular diseases, allergy, self-

- rated health and happiness: Japanese General Social Survey, 2010. *International Journal of Cardiology*, *181*, 403–412. <https://doi.org/10.1016/j.ijcard.2014.12.071>.
23. Sinanto, R. A., & Djannah, S. N. (2020). The Health Effects of Game Addiction on Young Gamers: A Systematic Review. *VISIQUES*, *19*(2), 410–419. Retrieved from <http://publikasi.dinus.ac.id/index.php/visiques/article/view/3831/0>.
24. Susanti, M. M., Widodo, W. U., & Safitri, D. I. (2018). Addiction Relationship Playing Online Games on Smartphones (Mobile Online Games) With the Diet of Elementary School Children Grades 5 and 6 in SD Negeri 4 Purwodadi. *The Light Shine of the Ners World*, *3*(2). <https://doi.org/10.35720/tscners.v3i2.122>.
25. Syahrani, R. (2015). Online Game Addiction And Handling. *Jurnal Psikologi Pendidikan Dan Konseling: Jurnal Kajian Psikologi Pendidikan Dan Bimbingan Konseling*, *1*(1), 84. <https://doi.org/10.26858/jpkk.v1i1.1537>.
26. Tateno, M., Teo, A. R., Ukai, W., Kanazawa, J., Katsuki, R., Kubo, H., & Kato, T. A. (2019). Internet addiction, smartphone addiction, and hikikomori trait in Japanese young adult: Social isolation and social network. *Frontiers in Psychiatry*, *10*(JULY), 1–11. <https://doi.org/10.3389/fpsy.2019.00455>.
27. Van Den Eijnden, R., Koning, I., Doomwaard, S., Van Gorp, F., & Bogt, T. Ter. (2018). The impact of heavy and disordered use of games and social media on adolescents' psychological, social, and school functioning. *Journal of Behavioral Addictions*, *7*(3), 697–706. <https://doi.org/10.1556/2006.7.2018.65>.
28. WHO. (2018). Gaming Disorder. Retrieved March 20, 2020, from World Health Organisation website: <https://www.who.int/features/qa/gaming-disorder/en>.
29. Yosephine, Y., & Lesmana, T. (2020). Parenting Patterns and the Tendency of Online Game Addiction in Late Adolescents in Jakarta. *Psibernetika*, *13*(1), 49–58. <https://doi.org/10.30813/psibernetika.v13i1.2272>.
30. Young, K. S. (2007). Cognitive behavior therapy with internet addicts: Treatment outcomes and implications. *Cyberpsychology and Behavior*, *10*(5), 671–679. <https://doi.org/10.1089/cpb.2007.9971>.
31. Zhang, M. X., & Wu, A. M. S. (2020). Effects of smartphone addiction on sleep quality among Chinese university students: The mediating role of self-regulation and bedtime procrastination. *Addictive Behaviors*, *111*, 106552. <https://doi.org/10.1016/j.addbeh.2020.106552>.