

The Impact of the E-Sport Curriculum Toward Online Game Addiction

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Abstract

Increasing cases of gamers in Indonesia reaching 34 million and addicted users to games have an impact on physical and psychological conditions. These phenomena need suitable intervention and government concern. Many alternatives can be an option. This study aims to identify the influence of E-sport Curriculum Policy toward Game Addiction among adolescents. This research uses a mixed-method in which the quantitative analysis uses regression data analyses in 4-scale of Likert and qualitative uses interview. The key question is based on Lemman's measurement criteria in gaming addiction, Custer and Russel's E-sport Curriculum through feasibility test in the form of reliability test and validity test. The sample of this study are adolescents including junior and senior high school students with purposive random sampling. The hypothesis result shows the value of R-Square is 0.509 meaning that the proportion of variants of the game addiction behavior described by all independent variables is 50.9%, while 49.1% is influenced by other variables not examined. The combination of cognitive and behavioral aspects of the e-sports curriculum is believed to be a solution. The knowledge provided is in line with the treatment of game addiction players, and what is done will cause a reflection effect in line with the experts' point of view.

Keywords: Gamers, E-sport Policy, Game Addiction, Adolescents

Abstrak

Meningkatnya kasus gamer di Indonesia yang mencapai 34 juta dan pengguna game yang kecanduan berdampak pada kondisi fisik dan psikologis. Fenomena ini membutuhkan intervensi dan perhatian yang sesuai dari pemerintah. Banyak alternatif yang bisa menjadi pilihan terutama Analisa E-sport sebagai kurikulum. Penelitian ini bertujuan untuk mengetahui pengaruh Kebijakan Kurikulum E-sport terhadap Kecanduan Game pada remaja. Penelitian ini menggunakan metode campuran dimana analisis kuantitatifnya menggunakan analisis data regresi dalam skala likert 4 dan kualitatif menggunakan wawancara. Pertanyaan kunci tersebut didasarkan pada kriteria pengukuran Lemmens dalam kecanduan game, Kurikulum E-sport Custer dan Russel melalui uji kelayakan berupa uji reliabilitas dan uji validitas. Sampel penelitian ini adalah remaja termasuk siswa SMP dan SMA dengan purposive random sampling. Hasil hipotesis menunjukkan nilai R-Square sebesar 0,509 artinya proporsi varian perilaku adiksi game yang dijelaskan oleh semua variabel independen adalah 50,9%, sedangkan 49,1% dipengaruhi oleh variabel lain yang tidak diteliti. Perpaduan aspek kognitif dan perilaku dari kurikulum e-sports diyakini bisa menjadi solusi. Pengetahuan yang diberikan sejalan dengan perlakuan terhadap pemain kecanduan game, dan apa yang dilakukan akan menimbulkan efek refleksi sesuai dengan sudut pandang para ahli.

Kata Kunci: Gamer, Kebijakan E-sport, Adiksi Game, Remaja

Introduction

Public health issues related to excessive internet use (Young, 1996; Brenner, 1997; Beard & Wolf, 2001; Pratarelli & Browne, 2002; Griffiths, Davies, & Chappell, 2003; Shapira et al., 2003; Block, 2008) & online gaming has become the growing concern of the world (Kuss & Griffiths, 2012; Király et al., 2018). Worldwide news and records of digital games in the Guinness Records Book indicate that game addiction has become the subject of news as well (Başol & Kaya, 2017). Gaming addiction is usually mentioned as internet addiction in some kinds of literatures, however, the term internet addiction consists of various types, e.g., online games, online chat, online gambling, online sex, online information, online shopping, or surfing the Internet for research (Leung, 2004; Flisher, 2010; Peltoniemi, 2002). Considering internet game addiction as of some importance, America has recognized the problem and prepared for a diagnostic guideline in the Diagnostic and Statistical Manual of Mental Disorders or DSM-V (Block, 2008).

In 2012, South Korea's online video game addiction in intense gaming cultures rate is not as high as otherwise believed (Seok & DaCosta, 2012). It becomes an issue in the period after Smartphone penetration in which case the rate in South Korea is also one of the highest in the world (YonhapNews, 2015). In the Korean national representative survey of 18,500 participants in 2015, it was reported that at least there was 6.8% problems related to excessive Internet use, 1.2% were considered to have a significant problem, 16.2% of Koreans displayed some problems related to smartphone and 2.4% showed highly problematic conditions that may require treatment (Ministry of Science – ICT and Future Planning & National Information Society Agency, 2015). In 2006, over 120 million Chinese played online games, overtaking South Korea as Asia's biggest online gaming market (Kshetri 2010; Ernkvist and Ström 2008). China has also shown internet addiction rates of 3.7% and 2.4% was among the youth (Kuss et al, 2013). According to China Internet Network Information Center (2015), the number of online game players has increased to 366 million. Internet user penetration in Indonesia reaches 64.8% of total users with 46% used for online games (APJII, 2018). This increase reached 27 million users from the previous year which means that there were 171.17 million internet users out of a total of 246.16 million inhabitants of Indonesia based on the Central Statistics Agency data or BPS and this will continue to increase along with the development of network infrastructure development in various regions in Indonesia (Kasyfi, 2019). According to gaming researcher Newzoo (2017), there was an estimated 43.7 million active gamers in Indonesia, spending a total of USD 879.7 million with average annual spending of USD 20.13 per person. This made Indonesia the largest gaming market in Southeast Asia and 16th largest globally, just behind Taiwan and ahead of India (Newzoo, 2018).

Internet addiction is particularly prevalent within adolescents wherever it exists (Griffiths et al, 2004; Choi & Kim, 2004). The prevalence of internet addiction in adolescents in Asia tends to be higher than in the US or Europe, and cultural differences are partly responsible for this (ITU, 2016). Asian adolescents tend to have difficulty expressing themselves in real life that leads to self-expression in the cyber world. Online gaming is still increasing rapidly, especially in the 21st century which will be the age of digital gaming (Leonard, 2003). China Internet Network Information reported that 27.3% of the 485 million people who use the internet are adolescents (ITU, 2016). The use of excessive internet has made Ma Huateng, Tencent's chief executive, named the new conglomerate in China and thus defeating Jack Ma as the richest businessman in the world with a worth of 48.2 billion US dollars. This was due to people are confined at home and play games during the covid-19 pandemic period (Indosport, 2020). The research held by the Ministry of Communication and Information with 400 adolescents aged 10-19 years showed that approximately 80% of adolescents, especially in Jakarta, Banten, and Yogyakarta Special Region, use the internet in their daily lives (Kurniasanti et al., 2019). Euromonitor (2017) explained the industry revenues of

Indonesia had grown from IDR 1,812 trillion in 2011 to IDR 11,395 trillion by 2016, with a growth of 44.4% annually.

Excessive use of online video games has become common and may result in many negative psychological and physical damages, including social isolation, suicide, lack of sleep, hypertension, and death (Bruner & Bruner, 2006). These phenomena may be more prevalent among adolescents, a group that tends to engage in more risky behaviors than adults (Quadrel et al, 1993; Nelson et al, 1997). A Chinese video game streamer reportedly died of exhaustion after months of sleepless nights (Spooky, 2017). South Korean gamers have died after playing for days with little food or sleep (Kim, 2019). Three children in Semarang suffered mental disorders due to Online Game Addiction (Farasonalia, 2019). Elementary school students skipped their classes for 4 months because of addiction to the game. A man in Bogor dared to kill a driver because his gaming laptop is broken. A son-in-law stole 162.5 grams of gold from his parents-in-law's jewelry as a result of gaming addiction (Rachmawati, 2019). Students almost dropped out of their universities, because they were addicted to online games. The phenomenon of bringing a potty into the bedroom is an occurrence due to gaming all night resulting in anxiety to leave the game (Kurniasanti, 2019). These pieces of evidence are in line with research conducted by Sherry (2001) the problems that will occur in the development of online games are aggression and addiction. To address the issues, the South-Korea government provide training to 1035 counselors (Block, 2008; Ahn, 2007) and implemented preventive action in school (Ju, 2007). Indonesian Minister of Health openly expresses his concern about the growing problem of online gaming among children and teenagers (Jap et al., 2013).

Imam Nahrawi, the Indonesian Minister of Youth and Sports Affairs 2014-2019, responded to the development of gaming behavior among millennials through the idea of including e-sports to the curriculum. He described that e-sport is a sports activity that can train physical and mental players because it requires high concentration and long duration. The Ministry of Youth and Sports has also budgeted Rp50 billion to hold competitions at the school level. A serious effort by the government seems to develop e-sports in Indonesia. This was emphasized by the statement of Eddy Lim, the Chairperson of the Indonesian e-Sport Association (IESPA), who explained that the discourse was a positive effort to support the E-sports industry going forward. The California-based North America Scholastic Esports Federation, known as the Orange County Esports League, has developed an extensive and free esports curriculum implemented by Sedro-Woolley High School north of Seattle and Tipton High School in Indiana (Zalaznick, 2019). One of the senior high schools in central Jakarta, namely SMA 1 PSKD, is the first school that adopted E-sports curriculum into the school program (Yulianson, 2017). Bina Bangsa School in Malang East Java has its own esports curriculum where students can learn many things about how to set the right time between practicing playing skills, fitness, and learning to manage breaks and eating patterns (Goenawan, 2018). The North America Scholastic Esports Federation argues that the esports curriculum can be combined into all core subjects to help students envision careers in the rapidly growing video-gaming industry (Zalaznick, 2019).

Method

This research uses mixed methods as a research design that combines two methods that are quantitative and qualitative. In the context of quantitative methods, the data generated are using confirmatory factor analysis and regression to find the influence of e-sport curriculum on game addiction. In the context of qualitative methods, the data used in this research refer to interviews of the experts and triangulation test validity.

Quantitative

The data generated are using confirmatory factor analysis and simple regression to find the influence of e-sport curriculum on game addiction. The researcher adapted E-sport Curriculum developed by Custer and Russel (2019) into Indonesian in which it becomes two dimensions, namely Cognitive Control and Behavior Control. The scale consists of 11 statement items. The researcher adopted the Game Addiction Scale (GAS) developed by Lemmens (2009) into Indonesian with seven dimensions, namely salience, mood modification, tolerance, withdrawal symptoms, conflict, relapse, and problems. The scale consists of 21 statement items. These both are measured using a 4-point Likert scale ranging from STS (Very Not Often), TS (Not Often), S (Often), and SS (Very Often). The samples for quantitative research are 307 students; 220 boys and 97 girls who were taken through an online questionnaire during the pandemic. These are the criteria for becoming the respondent; junior or senior high school student and has been playing online games for the past six months.

Qualitative

In the context of qualitative methods, the data used in this research refer to interviews of the experts. For validity and reliability in qualitative data, this paper uses a triangulation method. Triangulation also has been viewed as a qualitative research strategy to test validity through the convergence of information from different sources (Carter, 2014). Triangulation involves the participation of two or more researchers in the same study to provide multiple observations and conclusions. This type of triangulation can bring both confirmations of findings and different perspectives, adding breadth to the phenomenon of interest (Denzin, 1978).

Dr. Kristiana Siste Kurniasanti is a graduate of The University of Indonesia, subspecializing in addiction psychiatry. As lecturer, she developed an addiction module for undergraduate and trainee programs, and one-stop services for alcohol and behavioral addiction patients in Cipto Mangunkusomo Hospital, Jakarta. Her research was on cannabis, HIV/AIDS, and Internet addiction (Kurniasanti et al., 2019). She has been granted a scholarship for addiction training in Japan, Adelaide, and the Netherlands.

Dr. Asrorun Ni'am Sholeh as Deputy of Youth Development at the Ministry of Youth and Sports of the Republic of Indonesia and Secretary of the MUI Fatwa Commission was directly involved in the discussion with the Indonesian Child Protection Commission or KPAI and Ministry of Communication and Informatics or KOMINFO and Indonesian Ulema Council or MUI to provide and optimize the value of games as a technology product and minimize the negative impacts (Esport, 2019).

Results and Discussion*Regression Result*

Based on table 1, The researcher looked at the R square size to find out the percentage (%) of the variance of Game Addiction explained by E-sport Curriculum. R-Square is 0.509 or 50.9%. This means that 50.9 % of the variations of Online Game Addiction can be explained by the variation of all independent variables (E-sport Curriculum) while the remaining 49.1% is influenced by other variables outside of this study.

Table.1

R Square				
Model	R	R Square	R Square	Std. Error of the Estimate
1	.713 ^a	.509	.507	7.02123

Predictors: (constant) E-sport Curriculum Cognitive and E-sport Curriculum Behaviour

As the next step in Table 2, the researcher looked at the regression coefficient of the independent variable. If sig <0.05, the regression coefficient is significant, which means that the independent variable has a significant effect on Online Game Addiction. The regression coefficient of the independent variable on the Online Game Addiction.

Table 2.

Regression Coefficient

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	85.659	2.047		41.856	.000
	E-Sport Curriculum	-.713	.040	-.713	-17.768	.000

a. Dependent Variable: Online Game Addiction

Variable E-Sport Curriculum has a significant value of $p = 0.00 (< 0.05)$, it can be concluded that the null hypothesis (H_0) is refuted. So, it can be said that there is a significant influence from E-Sport Curriculum on Online Game Addiction. This means that the E-Sport Curriculum variable has a significant negative effect on $\beta = -.713$ Online Game Addiction. This means that the stronger this E-sport Curriculum policy is implemented, it will decrease the penetration of game abuse behavior or game online addiction.

Further, the researcher gets the proportion of variants of E-sport Curriculum to Online Game Addiction in Table 3.

Table 3.

Proportion of variance

Model Summary							
		Change Statistics					
Model	R	R Square	R Square Change	F Change	df1	df2	Sig. F Change
1	.622 ^a	.387	.387	192.375	1	305	.000
2	.721 ^b	.520	.133	84.384	1	304	.000

This column value will be compared with the column F count. If the calculated F value is greater than the F table, then the next column which is the significance column will be written as significant and it is opposite. Based on R Square Change, E-Sport Curriculum Cognitive Variable contributed by 38.7% to the Online Game Addiction. This contribution is statistically significant with a sig value of 0.000 (<0.05). E-Sport Curriculum Behaviour contributes to Online Game Addiction by 13.3 %. This contribution is statistically significant because the sig value is 0.000 (< 0.05).

Expert Analyses

Dr. Siste Kurniasanti

Doctor Siste explained that a healthy pattern of playing online games is playing no more than 3 hours per day. The treatment given to people who have been affected by online game addiction is cognitive therapy in the form of cognitive behavior therapy (CBT). Cognitive behavior therapy is a combination of two main theories, including the learning theory of behaviorism and cognitive theory, which focuses on modifying behavior and changing maladaptive beliefs about CBT assessments and interventions. The different forms of cognitive behavior therapy were developed by several experts, including Albert Ellis with rational emotive behavior therapy, Aaron T. Beck with cognitive therapy, and Donald Meichenbaum with cognitive behavior modification. Another way is forcible limitation efforts by using drugs such as sleeping pills or sedatives so that they are not anxious when not playing online games; then accompanied by social assistance from parents and teachers as well as by a religious spiritual approach. Based on her experiences, the role of thinking patterns education in understanding games can be a long-term preventive step. Because if a person's cognitive patterns have not been resolved and playing games excessively is still tolerated, any intervention given outside of him will cause a negative response and he will look for alternatives for playing the games such as age limits regulation in playing games that make those who are under age use the identity of their parents to play. In the e-sport curriculum, the cognitive aspect will have a very dominant role in facing the challenges of deviant behavior in playing online games.

Dr. Asrorun Niam

In e-sports games, there are elements such as creativity, education, entertainment, and recreation, but when this is realized in the mental development of a child, the child tends to imitate the behavior he has recorded visually in the game; this process is often called mirroring. When good behavior is seen, it will have a good impact such as honing analytical skills and forms of cognitive observation carried out with children, but this is different when a child catches the negative things about a game that occurs, which can be in the form of terrorist anarchistic behavior or any other unwanted actions. Here is where the position of the state must be present.

The E-sports element included in the curriculum is in the process of being assessed. In general, with the education provided, the students' mindset will be open and can help them in making decisions. However, students often misunderstand what is being taught which can also lead to errors in behavior. Meanwhile, the limitation effort must be simulated for it to adapt successfully to the Indonesian culture.

These two experts substantively agreed that e-curriculum combining between cognitive dimension and behavioral dimension can be the solution for matters of game addiction in Indonesia.

Discussion

The phenomenon of game addiction among adolescents is quite massive and is a trend that continues to increase, especially during the Covid-19 pandemic. This game addiction behavior paired with the use of tobacco, alcohol, and gambling, considering the effects of game addiction on adolescents, is something that must be considered and studied carefully. Because this pathology will easily destroy the future of the nation's young generation. Therefore, it is increasingly important for scientists, game industry players, political elites, and the government to consider the steps that must be taken, the impact they have on the quality of personal life, as well as their social state. This is what triggers research on the E-sport Curriculum against Online Game Addiction.

This e-sport curriculum should be able to help adolescent cognition to control the level of game addiction because when a person's thinking is right, he will do things according to his way of thinking. At the policy level, good prevention programs must be prioritized before all other measures because these can address the problem in an early stage and can reach the widest audience thus contributing to a positive outcome (Koo, Wati, Lee, & Oh, 2011; Turel, Mouttapa, & Donato, 2015).

There are other policy alternatives that can be tested apart from the above variables. Like limiting availability access on an online games, such as is implemented in South Korea and China. It differs in regulatory specifications such as duration and age requirements. In the previous study, it has been proven that gamers would not play video games excessively when they are unable to access them continuously (Kiraly et al., 2018). Parental controls consist of content filters with limiting access to specific content, such as age-inappropriate content which can be mature or adult only classification, setting specific time limits that prevent logging on during specific times of the day, monitoring steps to track online activity when using the device. Increasing the price of video games could either be initiated by the gaming companies themselves or be legislated by the authorities by imposing higher taxes. Giving warning messages in which, these messages are arguably analogous with the health warning messages that appear on tobacco and alcohol packaging (Van Rooij, Meerkerk, Schoenmakers, Griffiths, & van de Mheen, 2010) can be considered as an alternative. Because based on the efficiency of cigarette warning labels (Azagba & Sharaf, 2013; Hammond et al., 2004), it may be assumed that such warning messages could be useful in raising awareness of game addiction consequences. Although sharing best policy practices is highly beneficial due to the significant cultural differences, policy measures should be applied and evaluated locally (Kiraly et al., 2018). After implementing this policy, the next challenge that may occur may be the potential loss of game companies' revenue (Kiraly et al., 2018).

This study has limitations in the distribution of data which is only conducted online due to the PSBB policy in DKI Jakarta during covid 19. Therefore, several other variables could be significant if tested in areas with different cultural characteristics and different samples.

Conclusion

Based on the results of research data analysis, the conclusion that can be drawn from this research is that there is a significant effect of E-sport curriculum variable on Game Addiction behavior among adolescents in JABODETABEK. This means that the more frequent the implementation of the policy, the lower the consequences of game addiction. This finding is reinforced by Dr. Siste's argument that states that the concept of e-sport curriculum is very basic and necessary to provide a prevention mechanism against online game addiction. But this study must be conducted in detail, according to Dr. Asrorun Niam statement, a variety of studies about

games must be implemented, so that the next challenges that may occur can be solved, such as potential loss of revenue and negative feedback from the parent's point of view.

For Indonesia, to have a good policy on game development, the E-sports Curriculum policy is a policy that can be seriously considered as it can describe about 50.9% of online game addiction behavior that may occur among adolescents. Moreover, it is considered as not only measuring online game addiction but also measuring adolescents' achievement on gaming for them to become pro players of e-sport or influencers. If this does not happen, the high penetration of game users will multiply and cause more massive victims of game addiction.

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