

HOW COMMON IS ONLINE GAME USE ADDICTION? A PREVALENCE AND MOTIVES STUDY AMONG UNDERGRADUATE STUDENTS

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ABSTRACT

Online games are becoming more and more popular among young people, offering many attractive features that make young people prefer playing to learning, which has become a habit among young people. There are several motivations for getting someone to play online games. The present study was aimed at finding out the prevalence and relationship between online game addiction and motive of online game use among university students. This was a descriptive cross-sectional survey study. The subjects of the study were students of Semarang State University who were selected randomly (N = 568). Univariate data analysis and bivariate correlation were employed. The result of the study showed that 245 students (45%) were categorized as having a low level of addiction. In other words, students of Semarang State University were not online game-addicted. The highest percentage of motive of online game use was recreation, while the lowest one was fantasy. Other data indicated that coping motive exhibited the most significant correlation with online game addiction. It can be said that online game that is viewed as able to fulfill the needs of entertainment or recreation can also become one of the coping strategies when students undergo various pressures or stress. However, the data exhibited that there were three students whose addiction level was categorized as very high. Accordingly, these three students should be treated to lower their addiction level.

Keywords: Game online, Addiction, Motives, Undergraduate Students.

INTRODUCTION

Information and communication technology experiences rapid advancements. One of the advancements is the finding of the internet. The internet users' activities comprise fun activities such as watching video clips or listening to the audio, chatting, downloading music or playing game. The most recent survey published by Indonesia Internet Service Provider Association (APJII) in 2017 reported that there were 143.26 million active internet users in Indonesia, it was about 54.68% of Indonesia's total population. This development also triggers the development of online games. These studies also provide evidence supporting 21st century cognitive skills such as integrating knowledge, developing skills such as accessing prior knowledge, facilitating identification of main learning. These skills help students organize the knowledge they are acquiring. The advent of the Internet and the increasing possibilities for digital use, including online gaming, offers many opportunities for people and for learning.

Online games have become a very popular form of electronic entertainment and a trend for recreational activities especially among children and adolescents (King, & Delfabbro, 2019). For teenagers, online games are in great demand, as if online games have become their trend (lifestyle). High curiosity makes teenagers continue to try various existing smartphone features,

so that smartphone use is increasing. Proper use of online games can have a positive impact on youth. Online game brings both positive and negative effect for its user. From the positive side, online application is helpful for research, science, medical, academic, social network, and many other needs. Most studies examining cognitive skills show that games have a positive effect on how students construct mental maps. Games can help students develop cognitive skills such as problem solving, visualizing concepts, and building relationships (Gee, 2003; Kaufman & Sauv e, 2010). Thus, games allow students to integrate new materials and concepts more intuitively and also help students organize previously learned information more comprehensively.

Online games and social networks are changing the way we communicate and thus the way we think, work and play stated by Klopfer, Scheintaub, Huang, Wendel and Rogue (2009). Games are highly motivating and engaging for students, enabling students to retain, connect, and transfer learning. An interesting review by Lieberman, Fisk, and Biely (2009) found that games that leverage the use of technology can enhance learning, enhance cognitive skills, enhance social interaction, and motivate and improve self-care and health. These studies also provide evidence supporting 21st century cognitive skills such as integrating knowledge, developing skills such as accessing prior knowledge, facilitating identification of key points in learning. These skills help students in constructing the knowledge they have acquired.

However, fun online gaming often makes the game players neglect times and their surroundings. Increasing and excessive online game habits can bring negative consequences such as addictive behavior among the minority of the users (Kowert, Festl, & Quandt, 2014; Williams, Yee, & Caplan, 2008). Online game addiction is defined as a maladaptive psychological state that relies on online gaming which is manifested through an obsessive-compulsive pattern of seeking and using behavior at the expense of other important activities (Xu, Turel & Yuan, 2012). In addition, game online addiction showed behavioural problems that present as: loss of control, increased conflict, preoccupation with games, utilization of games for the purpose of overcoming mood modification, and withdrawal symptoms if gamers are forced to quit. Teenagers are considered to be more popular and more susceptible to online gaming addiction than adults. Adolescence, which is an unstable period, tends to be easier to try new things (Jordan & Andersen, 2016).

In general, online games are played using PCs (personal computers) but since 2014, online gaming using mobile consoles or smartphones is experiencing a significant increase (Baskoro, 2015). Research shows that the current trend of using online games is not limited to the PC system but has penetrated into the mobile system. There are different types of genres in online games, such as first-person shooter (FPS), arcade, simulation, racing, real-life game (RPG), and more. However, the most popular and widely played are multiplayer online (MMO) games with RPG (MMORPG) genre. This genre is one of the most requested as it is considered capable of meeting the diverse gaming needs and motivations of gamers. Some of the motives include escape from reality, machine games, achievements and socializing in the game world, which makes this type of game more engaging and tends to be more addictive than types of games online or offline (Kuss, 2013). Consistent with this statement, Scott and Armstrong (2013) in their study stated that massively multiplayer online MMORPGs are considered attractive because players can create in-game characters at will. their wants and develop them according to their will. 'Infinite. This type of game uses the same time as the real world (real time) and is very competitive, so players of this type of game tend to be more dependent on the games they play than on other games. play in the same genre.

The World Health Organization (World Health Organization) includes game addiction in the list of diseases in the 11th edition of the International Classification of Diseases report (WHO, 2018). Based on data compiled from Newzoo, App Annie, Forbes, Techn Asia in 2017, Indonesia was ranked 16th in the world with 43.7 million gamers and for the age of 10-20 years contributed a percentage of 36% (Viva.co.id; 2018). In addition, online game addiction can have a negative or dangerous effect on adolescents experiencing it. The impact that will occur due to online gaming addiction includes 5 aspects including health aspect, psychological aspect, academic aspect, social aspect and financial aspect. (King & Delfabbro, 2018; Sandy & Hidayat, 2019).

Theoretically, Problematic Online Game Use (POGU) and online game addiction are the same; they refer to an excessive online game use that results in negative impact (Kim & Kim, 2010). This is asserted by theoretical perspective from Young (1998), in his theory, POGU is derived from the characteristics of people suffering from internet addiction (IA), which is based on the criteria of *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-V)*. Addictive behavior can be defined as a condition where an individual is addicted to a certain thing he loves on various occasions, which emerges from a lack of behavioral control, making them feel guilty when they do not satisfy their desire. This asserts that addiction is compulsive and lack of control aspect of behavior (Griffiths, 2005). They usually do what they love on any occasion.

How to distinguish between addiction and addiction tendencies, researchers refer to the proposed criteria in the DSM-5 (American Psychiatric Association, 2013) which explains that the severity of the disorder is based on the extent to which it interferes with daily activities. The proposed criteria in question are continuous and repeated use of the Internet to play games, often with other players, causing clinically significant disturbance or distress that is characterized as unsuccessful attempts to control online gaming behaviour, an increase in the amount of time playing online games, playing online games has become a dominant activity in an individual's life, health problems and relationships with others arise as a result of playing online games by individuals and this in a 12 month period.

Online game gains its popularity among adolescents, it offers a number of attractiveness, making adolescents prefer to play game than to study, and this has become habit among adolescents. In addition to impulsivity and aggression, enjoyment and competitive feelings can be associated with gambling addiction because dark personality traits are associated with higher levels of enjoyment and satisfaction with one's unhappiness can be facilitated by games (James, Kavanagh, Jonason, Chonody and Scrutton, 2014). There are some motivations that make someone playing online game. According to (Yee, 2006), there are ten subcomponents of motivation, causing ones to play online game, they are categorized into three components, namely achievement, social, and immersion. APJII's survey result in 2017 proves that the largest online game users were in the age of 19-34 years old (49.52%, or 70.94 million users). The survey conducted by the Ministry of Communication and Information Technology revealed that Indonesia has the sixth-largest internet users in the world, and most of them are adolescents aged 15 to 19 years old, the age of high school and university students.

This phenomenon is opposite to what university students should do. Students have a number of duties in university. The students supposed to study, obey the rule, respect the teacher, be discipline, and maintain the university reputation. The present study aimed to see the level of online game addiction and online use motive among the students of Semarang State University.

As Wijayanti (2013) argued, one's motive in playing online game affects their level of addiction.

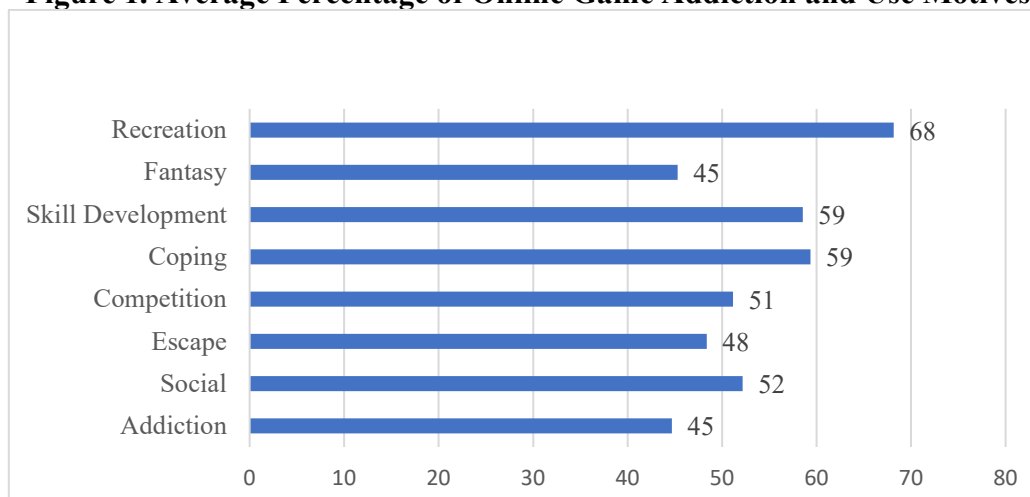
METHOD

This was a prevalence study with cross-sectional survey approach. The study was conducted in Semarang State University. The population of the study was all students of Semarang State University. By using random sampling technique, 568 students were selected as the subjects of study. The data of study were collected using two scales, addiction scale and online game use motives scale. Addiction scale used in the present study was adapted from Game Addiction Scale developed by Lemmens, Valkenburg, & Peter (2009). This scale consists of 21 categories with 3 categories on each aspect related to the seven criteria for online gaming addiction according to Lemmens, Valkenburg and Peter, which are silence, tolerance, mood swings, relapse, addiction, conflict and problems. This tool has a Cronbach Alpha score of 0.94. There are no adverse factors in this measurement tool.

Besides, online game use motives scale was adapted from instrument developed by Demetrovics et al. (2011), namely, motives for *Online Gaming Questionnaire* (MOGQ). This scale consists of 27 items that measure seven aspects of gambling motivation: escape (escape from reality), cope (overcome stress and distress), fantasy (gambling identity and experience), skill development (such as attention and coordination), Recreation (entertainment and fun), Competition (challenge and compete with others) and Social (establishment and maintenance of social relationship). MOGQ is the first tool designed to measure the motivation of online gamers of all ages. These include the major gambling motives identified in previous studies and exhibit high internal consistency. Univariate data analysis and bivariate correlation were employed. There were five interval criteria to interpret the percentage, Very Low, Low, Fair, High, and Very High. The result was categorized as Very High if its percentage is in the range of 84%-100%. It was categorized as High if its percentage is in the range of 68%-83%. It was categorized as Fair if its percentage is in the range of 52%-67%. It was categorized as Low if its percentage is in the range of 36%-51%. While it was categorized as Very Low if its percentage is in the range of 20%-35%. Data analysis using correlation analysis and multiple linear regression. Researchers used the application of Statistical Product and Service Solution (SPSS) version 22.

RESULTS

Based on the data that had been collected, it was found that the mean level of student's online game addiction was low. In other words, the level of online game addiction among the students of Semarang State University was categorized as low. It can be said that the Semarang State University students had not been addicted by online game. Detail on average percentage of online game addiction level and use motive is presented in figure 1.

Figure 1. Average Percentage of Online Game Addiction and Use Motives

By referring to data presented in figure 1, we know the percentage of online game addiction level and its use motive. Recreative motives exhibit the highest percentage of 68%. It means that the Semarang State University students use online game due to recreative needs. Figure 1 also shows that the lowest motive of online game use was fantasy. In other words, fantasy did not drive the students to use online game. Table 1 presents the frequency distribution and percentage level of each category.

Table 1. Frequency of Online Game Addiction and Use Motive

Category	Addiction		S		E		Com		Cop		SD		F		R	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
ST	3	0.5	42	7	18	3	35	6	60	11	78	14	19	3	152	27
T	20	3.5	92	16	79	14	98	17	156	27	123	22	54	10	135	24
S	132	23	165	29	141	25	138	24	162	29	166	29	135	24	173	30
R	245	45	115	20	161	28	142	25	107	19	94	17	136	24	50	9
SR	168	28	154	27	169	30	155	27	83	15	107	19	224	39	58	10

S (Social), E (Escape), Com (Competition), Cop (Coping), SD (Skill Development), F (Fantasy), and R (Recreation)

As table 1 shows, out of 568 students, 245 students (45%) were at a low level of addiction. However, there were three students whose addiction category was classified into 'very high'. The data is relevant to the description of the previous result that in general, students of Semarang State University did not suffer from online game addiction. With regard to motive, it was found that the highest motive of online game use was recreation, and its lowest motive was fantasy. As shown in table 1, 152 students (27%) stated that their motivation for playing online game is recreation. In contrast, the study found that only nineteen students (3%) stating that their motive for playing online game was fantasy. Table 2 shows more in-depth correlation between addiction and motive on online game use.

Table 2. Correlation between Addiction and Motive of Online Game Use

		S	E	Com	Cop	SD	F	R
Addict	Pearson Correlation	.587**	.645**	.589**	.667**	.577**	.552**	.629**
ion	sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	568	568	568	568	568	568	568

***. Correlation is significant at the 0.01 level (2-tailed).*

S (Social), E (Escape), Com (Competition), Cop (Coping), SD (Skill Development), F (Fantasy), and R (Recreation)

Table 2 shows that each motive was significantly associated with online game addiction. The sig. value of all motives was 0.000 (<0.01), so that all motives were considered having a correlation with online game addiction. Further, table 2 shows that out of seven motives, the highest Pearson Correlation score was found in coping (score= 0.667). Thus, it could be concluded that coping holds the most significant relationship with online game addiction.

DISCUSSION

Based on the result of the study, it was found that, in general, the online game addiction level of Semarang State University students was categorized as low. It was reported that only three students (0.5%) whose addiction level was very high, and 20 students (3.5%) whose addiction level was high. In other words, students of Semarang State University were not online game-addicted. With regard to motive of playing online game, the data exhibit that recreation was the strongest motive, meaning that there is a recreative needs or motive that makes students play online game as one of the coping strategies. This is relevant to the data showing that motive with the most significant effect on online game addiction is coping.

Yee (2006) explains that addiction refers to an individual's process of becoming loss of control related to an object or an activity to gain enjoyment. Addiction may also occur among online game users. Online game addict is defined as an individual who loves to play online game and to be excessive in making contact with virtual world, compared to building relation with people in real life (Mathy & Cooper, 2003). When individuals love game and neglect their real life, they actually do not only harm themselves but also people in their surroundings.

One of the indicators of addiction is duration of online game use. Individual with online game addiction exhibits inability to manage their time in accordance with their social role. In line with this, Pempek, Yermolayeva, and Calvert (2009) explain that the intensity of online game use or social network in more than four days/week with and duration of more than 4 hours/ day causes addiction, resulting in the negligence of social role and the reduce of academic achievement motivation. Thus, students who have become online game addicts may experience negative impacts such as unfinished tasks, absenteeism, delayed graduation, or even Drop Out (DO).

Online game addiction occurs because individuals possess motives that make them want to keep playing. Grohol (2005) stated that online game addiction is caused by wish to satisfy needs that result in happy feelings and curiosity. Drive to satisfy needs or happy feelings and curiosity is then called motives. Motive refers to any matters driving an individual to act, or anything that is based on need, urge, wish, and drive. Students who love to play online game also have motives that make them prefer to play online game. The motive underlying online game use may vary according to individual's needs and wish. This is relevant with Schonfeld (in Valaindri, 2009) who explain that users report various motive to play online game. Demetrovics et al. (2011) explain that there are at least seven motives underlying individuals' online game use. They are social, escape, competition, coping strategy, skill development, fantasy, and recreation. Relevant to it, Gosling (2008) indicates some motives of online game use are friendship, social interaction, entertainment, and personality.

The result of the study showed that the highest percentage of motive was recreation; it was reported by 152 students (27%). According to Demetrovics et al. (2011), recreative motive is closely related to one's need to gain enjoyment, pleasure, and entertainment. Through online game, they find entertainment. Students may be exhausted by their academic and nonacademic

activities. Accordingly, they need the entertainment to get relaxation. Students need media that can help them having fun, and one of the media is online game. The study conducted by Wijayanti (2013) also supports that recreative motive affects online game addiction. Recreation, which is closely related to entertainment, is viewed as able to reduce stress due to daily life problems by enjoying spare time, dispensing emotion, and releasing burden and tenses. Thus, it is understandable that students find that using online game is helpful to reduce stress. However, uncontrolled use can lead to addiction, although the initial motive is recreation or entertainment.

Other data exhibit that coping motive holds the most significant correlation with online game use. Demetrovics et al. (2011) explain that coping is closely associated with *escape motive*. It is relevant to the result of the study showing that the Pearson Correlation score for coping motive was 0.667, and for escape motive was 0.645. These two motives exhibit the highest score, meaning that their correlation with online game addiction was more significant than the other five motives was. Coping is a multifaceted and complex construct. When individuals encounter a stressful event, they may implement a range of emotional, cognitive, and/or behavioral responses. This response depends on the subjective evaluation of the stressful event and on the perception of control over it (Melodia, Canale, Griffiths; 2022).

Demetrovics et al. (2011) explain that coping and escape motives are associated with media that makes individual does not feel lonely, helps them when being anxious, helps them forget problems and unhappy experience, to keep off painful reality, to forget daily routine, to find better mood, and to obtain satisfaction. Basically, students' drive and needs of using online game are viewed from two most significant motives (recreative and escape motives). In this regard, several studies have shown that there is a tendency to enjoy and pursue new activities and will be able to provide coping mechanisms to overcome their boredom and enjoy psychological and physiological stimulation and reward (Billieux et al, 2012; Mehroof et al, 2010). In principle, the students may feel that their online game use is due to needs for entertainment or recreation. Yet, after studied more deeply, students need entertainment and recreation due to their activity and stress. Thus, students need a diversion to get rid of exhaustion temporarily, or to forget stressful problems.

CONCLUSIONS

The result of the study showed that the level of online game addiction of Semarang State University students, in general, was low. In other words, students of Semarang State University were not online game-addicted. However, it was found that there were three students whose addiction level was very high. These students with very high level of addiction need special interventions. It is necessary to provide service for the students with very high level of addiction so that their addiction can be lowered. Online game addiction level can be caused by numerous factors, one of the factors is motive. The study reported that the biggest motive of addiction was recreation whereas fantasy was found having the lowest percentage of motive among the other six motives. In other words, coping motive has the most significant correlation with addiction. Coping motive is closely associated with escape motive, which was proven by its Pearson Correlation score that is bigger than other five motives. It can be said that recreative motive was indirectly associated with coping and escape motive. The results of this study must be viewed from its limits. First, this study is a cross-sectional study. Thus, this study could not determine the cause-and-effect relationship between the research variables. Future studies should apply experimental designs to establish causal relationships between variables, or longitudinal designs to examine future relationships between variables. As previous research

has shown, the link between online gaming addiction and mental health problems may be reciprocal. Second, the sample is a homogeneous group of students from Semarang State University. Whether the findings can be universalized to all adolescents is a question for future research.

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