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Intensity Of Violent Behavior In Adolescents Addicted To Violent Online Games In Yogyakarta Indonesia

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ABSTRACT
The Online game is a technological product that is quite popular among adolescents. Violent characters in online games can affect the game players. Hurting the enemies in the games every day will gradually lead adolescents to think that hurting people is a fun and common thing to do. The adolescent delinquency cases in Yogyakarta occur every year, and the most frequent cases are *klitih* (maltreatment) and brawls. This study aims to discover the relationship between the level of addiction to violent online games and the intensity of violent behavior in adolescents. This study employed a quantitative method with a cross-sectional approach. Data were collected through Game Addiction Scale for Adolescent questionnaires by about the adolescents' addiction to online games and violent behavior in adolescents. The respondents of the study were 96 adolescents, recruited using the Lemeshow formula. Data were analyzed using the Spearmen rho test. Results showed that 48 adolescents (50%) were addicted to online games at a moderate level. The majority of adolescents (44.8%) had a low intensity of violent behavior. The *p-value* was 0.000 (<0.005). The correlation value was 0.731, indicating a strong correlation between online gaming addiction and intensity of violent behavior, and the positive value suggests a unidirectional relationship. The level of online gaming addiction in adolescents in Yogyakarta is moderate. Online gaming addiction and violent behavior have a significant relationship with a strong correlation coefficient and a unidirectional relationship. Future researchers are suggested to add research variables to discover other factors contributing to violent behavior in adolescents.

Keywords : Adolescents, Online Games, Violent Behavior
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INTRODUCTION

The rapid development of technology produces countless technological products and has an impact on changing behavior in society. One of the technological products quite popular among adolescents is online games. Online gaming is encouraged by a number of facilities that provide online games. Adolescents with no access to online games at home can come to internet cafes that provide online gaming facilities. As a result, adolescents can play online games anywhere at any time. The number of gamers in Indonesia was 60 million in 2018 and is estimated to increase to 100 million in 2020 (1) .

Continuous online gaming raises a feeling of excitement, leading people to repeatedly play numerous times and later become addicted (2). A person with online gaming addiction finds it difficult to stop playing. Someone is addicted to games because they are accustomed to online gaming both consciously and unconsciously until they cannot differentiate between the real world and the virtual world (3).

Online games not only present realistic visualization, but also allow interactions between gamers. Interactions with other gamers allow them to spread hate through trash talk both in the verbal and non-verbal forms. The verbal form includes voice chat, while the non-verbal form includes chats (written) in online games (4). This kind of interactions can change a person's characteristics, such as emotional states and adolescent delinquency with violent behavior in adolescents.

Another factor that can influence a person's characteristics is the element of online games. Online games with an element of violence have contents such as fights, cannibalism and even murder. Age classification is applied for electronic interactive games in which a person of

a certain age has limited access to online games with particular contents (5). Online games that contain a barrage of violence and a feature of realistic weapons can only be accessed by people age 18 years or older.

Online games come with many different genres, such as *Real-Time Strategy* (RTS) that emphasizes the player's ability to use strategies; *First Person Shooter* (FPS) that takes the setting of warfare and uses military weapons; and *Role Playing Game* (RPG) that allows the player to create an avatar and choose weapons, such as words, chainsaws, and spears (6). These three genres require the player to hurt and even kill the enemies to win the games.

Hurting the enemies every day will eventually lead adolescents to believe that hurting others is a fun and acceptable thing to do. It is possible that the belief will be commonly-held by adolescents in daily life. How one forms self-identity involves the identification of figures that become idols (7). Seeing violent scenes in the game performed by the idolized characters can instigate adolescents to learn lessons from the models with violent behavior.

In recent days, adolescent delinquency has evolved into crimes. Adolescents used to make disruption with motorcycle convoys and commit a minor offense such as stealing. However, nowadays many adolescents have been recorded to commit a serious offense namely murder. On March 15, 2019 *The New York Times* reported a gunfire in New Zealand killing 49 people. The shooter was inspired by the game called *First Person Shooter*. The interrogation with the shooter revealed that the game called *Spyro the Dragon* taught him about e*thno-nationalism* and *Fortnite* trained him to become a killer and show off in front of the enemies' dead bodies. Similarly, in the city of Quezon, the Phillippines on March 2014, a teenage boy killed his grandmother after playing the Dota game. On June 7, 2013 in the city of Fayette, Alabama, a car theft resulted in 3 people killed. The criminal claimed to be inspired by the Grand Theft Auto game.

In Yogyakarta, adolescent delinquency cases occur every year. According to the Yogyakarta Regional Police Report, in 2016 there were 43 cases of crimes, such as brawls and *klitih* committed by adolescents. In addition, in 2016 some teenagers committed armed violence on the streets of Yogyakarta. The perpetrators who were seven teenagers under the age of 18 killed their victims. They had no underlying reason, neither robbery nor personal revenge, to commit the crime.

Besides *klitih*, brawls also often happen in Yogyakarta. In December 2017 police officers arrested eight teenagers involved in the case. The number of brawlers increased in 2018. Police officers arrested 25 school teenagers who were about to fight using sharp weapons (9,10).

METHOD

This was a quantitative study with a cross-sectional approach. The incidental sampling technique was employed, and 96 respondents were recruited using the Lemeshow formula. The inclusion criteria were adolescents aged 11-17 years and played online games more than 3 hours a day, while the exclusion criteria were adolescents who played non-violent online games and had played online games in less than a year. The study was conducted in the Special Region

Table 1. Online Game Addiction Level Categorization

Online Game Addiction Level Categorization	Frequency	Percentage
Low	23	24.0 %
Moderate	48	50.0 %
High	25	26.0 %
Total	96	100.0 %

Table 2. Violent Behavior Intensity Categorization

Violent Behavior Intensity Categorization	Frequency	Percentage
Low	43	44.8 %
Moderate	13	13.5 %
High	40	40.7 %
Total	96	100.0 %

of Yogyakarta in January 2020. The research instruments were a questionnaire to measure the scale of online gaming addiction in adolescents and a questionnaire on violent behavior in adolescents. The questionnaire carried out the content validity test with the r-table test results of 0.361, the reliability test on the Game Addiction Scale for Adolescent questionnaire used Cronbach Alpha with a reliability coefficient of 0.964 and the adolescent violence behavior questionnaire obtained a Cronbach Alpha value of 0.888. In regard to data analysis, univariate analysis was used to discover the majority level of online gaming addiction, the intensity of violent behavior, and the level of online gaming addiction. On the other hand, the bivariate analysis using the Spearman's rho test was performed to discover the significance, strength, and direction of the relationship between variables. This research has passed the ethical test with a certificate of passing the ethical test number: 004/EC-KEPK FKIK UMY/I/2020.

RESULTS

The respondents of the research were adolescents who were addicted to violent online games. The respondents were comprised of male (69.8%); 44 adolescents aged 15-17 years (45.8%); 48 adolescents in senior high school (50%); 96 playing online games for more than three hours a day (100%); 96 playing online games since a year ago (100%); and 50 playing online games with Action-Shooting genre (52.5%).

Table 1. showed the level of addiction to online gaming in adolescents in Yogyakarta. Out of 96 adolescents, the majority (50%) were addicted to online gaming at the moderate level. The table 2. about the intensity of violent behavior showed that most of the adolescents (44.8%) had low intensity of violent behavior.

Based on the table 3. about the relationship between the level of addiction to online games and the intensity of violent behavior in adolescents, it can be seen that the *p-value* was 0.000 (<0.005). As a result, there is a relationship between addiction to violent online games and the intensity of violent behavior in adolescents in Yogyakarta. The correlation coefficient was 0.731, indicating that the correlation between the variable of addiction to online games and the intensity of violent behavior is strong. The positive value suggests a unidirectional relationship, signifying that the higher the level of addiction to online games, the higher the intensity of violent behavior in adolescents.

DISCUSSION

Level of Addiction to Violent Online Games

The results showed that 50% of the respondents were addicted to online games at the moderate level. On online game addiction in adolescents that also found that adolescents had a low level of addiction to online games (11). Yogyakarta is one of the areas where game centers can easily be found and continue to increase every year. The convenience of finding the facilities to play games is one of the contributing factors of addiction to online gaming in adolescents.

On average adolescents have played online games for a year and spend three hours a day on online gaming. Some people consider playing online games a hobby. When playing online games, the brain will activate many circuits, such as *nucleus accumbens* (part of the brain that processes appreciation), *amygdala* (part of the

Table 3. the relationship between the level of addiction to online games and the intensity of violent behavior in adolescents

Spearman 's rho Test		Game Addiction Variable	Violent Behavior Variable
Game Addiction Variable	Correlat e Coeff	1.000	.731(**)
	Sig. (2-tailed)	.	.000
	N	96	96
Violent Behavior Variable	Correle Coeff	.731(**)	1.000
	Sig. (2-tailed)	.000	.
	N	96	96

brain that processes emotional responses), and *orbitofrontal cortex* (part of the brain that processes visual activities) (12). Excitement, challenges, and attractive visual can lead adolescents to become addicted to online gaming.

Adolescence is a period where people have more freedom in life, greater curiosity about new things, and unstable emotions. However, adolescents who have low addiction have good self-control on changes that occur during adolescence (13). Self-control is needed to regulate one's behavior, so that if self-control is good, the ability to prevent addiction will also be better

Intensity of Violent Behavior

Results of the study suggest that the intensity of violent behavior in the majority of adolescents is low. Online games with the element of violence can affect the player's psychological and cognitive aspects with low until high levels of addiction, instigate aggressive behavior, cause problems in controlling emotions, and lead to difficulty in self-control (14). Online games often exhibit scenes of crimes and violence, such as fights, destruction, and murder. The scenes indirectly affect the adolescents' subconscious mind that the real world appears similar with the world in online games (15).

The majority of male respondents had high intensity of violent behavior. There are seven factors called 7P that influence boys to behave violently, namely Patriarchy, Privilege, Permission, Paradox of Men's Power, Psychic Armor of Manhood, Psychic Pressure Cooker, and Past Experience (16). *Patriarchy* refers to a culture that men are more superior than women. *Privilege* indicates that men are allowed to do more things than women, so men are more privileged. *Permission* is a permit given to men to inflict violence on women. *Paradox of men's power* means that men have strength to become leaders, so failure of meeting the demands results in men engaging violence. *Psychic armor of manhood* means that men can become the role models in any activities. *Psychic pressure cooker* refers to the pressure of long-buried sadness that is later expressed in uncontrolled emotions. Lastly, *past experience* refers to violent events that men witnessed in the past.

Relationship between Level of Addiction to Violent Online Games and Intensity of Violent Behavior in Adolescents

Based on data analysis and the Spearmen rank correlation test, the significance value (*p-value*) was 0.000 with the significance level 0.05 between the variable of online gaming addiction and violent behavior in adolescents. Since the *p-value* <0.05, the hypothesis formulated in this study is acceptable, meaning that there is a relationship between the addiction to violent online games and the intensity of violent behaviors in adolescents. This result is in parallel

with the result found in the study about the relationship between online gaming addiction and adolescents' aggressive behavior with the *p* value = 0.04 and the *r* value = 0.342 (17). This study is also in line with a past study by Makasvhili et al., (2014) that found video game has a significant relationship with aggressive behavior in adolescents in which male adolescents have higher intensity of aggressive behavior than their female counterparts.

The multiple correlation coefficient value (*r*) on the statistical test was 0.731, signifying that the addiction to violent online games and the violent behavior in adolescents are strongly associated. Aggressive behavior in junior high school students has a strong correlation with playing online games (19). Violence-based online games can cause the brain to accept thoughts about violence more easily because interactive games allow the players to have a very active role in playing the games and to receive rewards in the form of victory over violent acts committed in the games (20). The more often adolescents play violence-based online games, the more intense they observe acts of violence shown in the games. As a result, violent acts are embedded in their mindset and aggressive behavior increases.

The results of the statistical test, the correlation coefficient value is positive. It indicates that there is a unidirectional relationship between the variables, meaning the higher the level of addiction to violent online games, the higher the intensity of violent behavior in adolescents. Similar result was found in the study that investigated the aggressive behavior in children and adolescents (21). Results showed that the higher the intensity of online gaming, the more aggressive the children's and adolescents' behaviors. Excessive interest in playing online games results in the addiction to online gaming. The addiction has adverse impacts on adolescents. Past research suggest that excessive online gaming can lead to time distortion, lack of attention, acts of violence, negative emotions and aggressive behavior (22,23). Adolescents who focus on online games do not care about their duties and obligations anymore, become emotionally unstable and imitate violent behavior from online games that are watched as a form of their learning process from online games with the violent genre

Aggressive teens always have the worst out of socialization (24). Authoritarian parenting plays a positive role in psychological behavior in children, while authoritarian and permissive parenting results in aggressive and negative behavior in children. (25). Adolescents who live in households with high parental warmth, authoritarian and authoritarian internet parenting styles have lower levels of online gaming dependence than in other households with parents with other styles (26). Permissive parenting applied by parents influences children to experience online game addiction (27).

RESEARCH LIMITATIONS

The number of respondents in this study was only 96 adolescents and the researcher used the incidental sampling technique in determining respondents so that the respondents were not able to represent each district in the Special Region of Yogyakarta.

RESEARCH ETHICS

This research has passed the research ethics test with ethical cleareance certificate no: 004/EC-KEPK FKIK UMY/I/2020. The implementation of this research applies research ethics such as inform consent, confidentiality, autonomy and beneficience

CONFLICT OF INTEREST

The researcher declares that this research does not have a conflict of interest

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CONCLUSION

Conclusion that can be drawn from the study entitled "Relationship between Addiction to

Violent Online Games and the Intensity of Violent Behavior in Adolescents in Yogyakarta" is that the level of addiction to violent online games in adolescents in the Special Region of Yogyakarta is moderate with the majority of adolescents having low intensity of violent behavior. Addiction to online games and violent behavior have a significant association with a strong correlation coefficient and a unidirectional relationship. It means that the higher the level of addiction to online games, the higher the intensity of violent behavior in adolescents. The future researchers are suggested to add more research variables such as parenting style, peers, and environments that are possibly able to influence adolescents to behave violently.

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