

The Effect of Online Game Violence Exposure on Teenagers' Aggressive Behavior

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ABSTRACT

The effect of media exposure on individual behaviour has attracted attention, especially with teenagers' aggressive behaviour. The study of the media exposure on violent behaviour primarily conducted related to television, and less extensive to study the impact of exposure on online video games. However, online video gaming continues to be popular compare to watching television. This research aimed to analyse the correlation between the exposures of violent scenes in Grand Theft Auto V online games towards aggressive behaviour in teenagers. The quantitative research method was applied, data collected in the form of questionnaires. A total of 150 teenagers were participated aged 17 to 19 years old. Measurements used were three dimensions of media exposure and four dimensions of aggressive behaviour. This research indicated a low, significant and positive correlation between the exposures to Grand Theft Auto V violent scenes towards teenagers' aggressive behaviour. The online game violent scene contributed around 38.6% toward the aggressive behaviour of teenagers.

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INTRODUCTION

The advancement of technology development has led to the emergence of new media. New media is an umbrella-term represented different technology of all text, sounds, images and graphic forms transformed by the computer and internet. This includes blogs, podcast, video games, virtual worlds, Wiki encyclopedia and other mobile devices, interactive televisions, and even websites and email (Nicoleta, 2008).

The effect of media exposure on individual behaviour had attracted growing attention, especially concerning young people' aggressive behaviour. Aggression is a response by an individual that delivers something unpleasant to another person (Buss, 1961; Singh et al., 2014)

that intended to cause harm, pain or injury in the form of physical, verbal, psychological and other means of causing harm. Aggression can be identified into two forms, namely: 1) overt aggression, which refers to direct aggression in the form of verbal and physical behaviour; 2) relational aggression, which defined indirect and relationship-based form of aggression (Little et al., 2003). Buss and Perry (1992) described in their theory of aggressive behaviour that there are four dimensions of aggressive behaviour, i.e. physical aggression, verbal aggression, anger, and hostility. Aggressive behaviour can result from a condition that lacks empathy and emotional sensitivity, and the other forms an excess of emotional sensitivity (Craig & Halton, 2009).

Young people are growing up in the era of the internet and new media. Youth spend a large amount of their time watching television and movies, playing video games etc., on the internet, with an average media usage time of 6 hours and 21 minutes daily (Tanwar & Priyanka, 2016). Some violent cases showed that media could contribute to aggressive behaviour. According to Shore, media exposure is more complicated than access because it is deal not only white whether a person is a range of the particular mass media, but also whether a person is exposed to the message, expose is hearing, seeing, reading or more generally experiencing with least a minimal amount of interest the media message (Kriyantono, 2010).

A report by the US Secret Service and the US Department of Education in 2002 that examined 37 cases of the school shooting and school attack incidents found that ‘over half of the attackers demonstrated some interest in violence through movies, video games, book and other media (Kaplan, 2012). Media Violence Commission of the International Society for Research on Aggression (ISRA) (2012) also reported that watching violent television, watching a violent film, or playing video games increases the likelihood of aggressive behaviour. In line with the American Academy of Pediatrics on 2009 Policy Statement on Media Violence, this research shows that the effect of media violence can contribute to aggressive behavior desensitisation to violence, nightmares, and fear of being harmed (American Academy of Pediatrics, 2009). Media exposure is 1 of the six risk factors for predicting later aggression in 430 children aged 7 to 11, grades 3 to 5) (Gentile & Bushman, 2012).

The study of the media exposure on violent behaviour predominantly conducted related to television, and less extensive to study the impact of exposure on online video games. However, data The State of Online Gaming 2020 research report highlighted that online video gaming continues to be popular compare to watching television. There are two billion video gamers worldwide in 2015 and expected to reach over three billion by 2023, and the Asia Pacific region is the centre of the video game industry (Statista, 2021). To illustrate, watching gamers play online video games is more popular than watching sports for 18-25 years old, and people between 18-45 years old prefer to play video games. The average spending time for video gamer is six hours (Tanwar & Priyanka, 2016; Limelight, 2021).

The degree of exposure to violent video games directly leads to an increase in aggression. Violent video games can initiate observation learning. This means they can imitate the aggressive behaviour of the model but also their understanding. World Health Organization (2002) stated that over 1,6 million people worldwide lose their lives to violence each year.

Thus, aggressive understanding behaviour is essential due to the possibility of adverse public health outcomes, such as youth violation and a broader implication on society.

One of the video games platforms is Grand Theft Auto V. It is an action-adventure game developed and published by Rockstar Games on 17 September 2013. Two platforms are available for this game, namely Playstation 3 (home video game console developed by Sony) and Xbox 360 (home video game console developed by Microsoft). Grand Theft Auto V is rated M for mature or adult. In 2009, the Guinness Book of World Records called it the most controversial video game series in history (Turow, 2014).

Grand Theft Auto V has several violent scenes that are different from the previous series. Namely, there are scenes of interrogation and torture of the game characters. It starts with verbal violence towards each character in the game, escalates to physical violence against each other by using crude methods such as electrocuting, hitting a knee with a wrench, and pouring water into the victim's mouth. The main game character that plays an interrogator's role is heard threatening the victims' family if he/she does not cooperate. Main game characters as an interrogator also verbalise and threatening to kill the victim's whole family if he does not cooperate with them (Jiwandono, 2015).

Various types of action-packed scenes featured in Grand Theft Auto V contain violence, such as burglary, brawls, murders, inappropriate language, normalising alcohol, and pornography. Video games with violent content are prevalent in the gaming world, making Grand Theft Auto V marketable and desirable by many people indicated by the number of sales that reached 800 million US dollars in its first launch.

METHODS

This research's objective was to analyse the correlation between the exposure of violent scenes in Grand Theft Auto V toward teenagers' aggressive behaviour. How do violent scenes in this game relate to the aggressive behaviour of teenagers?

This research was designed as a quantitative study. A total of 150 teenagers, who have played Grand Theft Auto V, participated in this study. Ages ranged from 17 to 19 years. Data collected then analysed using SPSS.

Measurements were media exposure and aggressive behaviour. The media exposure questionnaire required participants to list their frequency, duration and intensity of playing the game on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Meanwhile, aggressive behaviour was measured using 22 items of the Aggression Questionnaire developed by Buss and Perry (1992). The scale used 5-point scoring criteria.

The questionnaire was self-administered. The questionnaire's validity test showed that the Exposure Person correlation co-efficient score ranging from 0.487 - 0.720, and Aggression validity items from 0.441 to 0.712. Meanwhile, the reliability test indicated both exposure and aggressive reliability items with a score of 0.85 and 0.909. IBM SPSS Statistics 22 was used to analyse the correlations among study variables.

RESULTS AND DISCUSSION

Respondents Demography

This research conducted on 150 respondents, who are teenagers aged 17-19 years old and have played Grand Theft Auto V. As seen from the age category, this research is dominated by teenagers aged 17 years with a percentage of 46.7%, while teenagers aged 18 years old had a percentage of 11.3%, and 19 years old by 42.0%. Based on the sex category, this research is dominated by male respondents at 82.0%, meanwhile 18.0% for women.

Respondents have participated from 26 cities of 13 provinces of Indonesia. Respondents from West Java dominated with a total of 78 people with a percentage of 52.0%. Based on respondents' media to play Grand Theft Auto V, respondents were dominated by respondents who used personal computers with a percentage of 58.7% and followed by respondents who used consoles with 41.3%.

The respondents' duration in playing Grand Theft Auto V per day was divided into four groups: less than 1 hour, 1-2 hours, 3-4 hours, and more than 4 hours. According to the duration category, respondents played Grand Theft Auto V in one day, dominated by the duration of 1-2 hours with a percentage of 42.0%, then followed by the duration of more than 4 hours of 18.0%, then less than 1 hour of 17.3%, then 3-4 hours of 16.0%, and other duration of 6.7%.

Correlation Analysis among Study variables

Based on the frequency of playing Grand Theft Auto V in one week, respondents dominated to play 1-2 times with a percentage of 47.3%, followed by playing 3-4 times by 29.3%, then playing 5-6 times by 6.7%, and playing more than seven times a week by 9.4%, and others 7.3%.

The reason for playing Grand Theft Auto V is dominated by fill their free time, with a percentage of 49.3%, then followed by the reason for enjoying playing Grand Theft Auto V by 14.0%, then the reason for wanting to create a riot in the game by 12.7%, as for a reason for following a friend or brothers by 10.7% and the last reason is that challenged to complete a mission or a quest of 9.3%, and other reasons 4.0%.

Based on the category of playmates, the most respondents were those who chose to play by themselves with a percentage of 58.7%, while respondents who played Grand Theft Auto V with their friends by 30.0%, and respondents who played Grand Theft Auto V with their siblings by 9.3% and others by 2.0%.

Table 1: Results of the Pearson Product Moment Correlation Test

		Exposure of Violent Scenes in Grand Theft Auto V	Aggressive Behavior in Teenagers
Exposure of Violent Scenes in Grand Theft Auto V	Pearson Correlation	1	+0,386
	Sig. (2-tailed)		0,000
	N	150	150
Aggressive Behavior in Teenagers	Pearson Correlation	+0,386	1
	Sig. (2-tailed)	0,000	
	N	150	150

Source: Data processing, 2020

There are three interpretations as results of the correlation analysis on the table above. The first interpretation is about the strength of the relationship between the two variables. The correlation coefficient shows a value of 0.386. Based on the number of value, it means the correlation between The Exposure of Violent Scenes in Grand Theft Auto V towards Aggressive Behavior in Teenagers is classified as low.

The second interpretation sees the significance of the relations between the two variables. If the significant number of the research is smaller ($<$) than the determined significance number, then the relationship between the two variables is determined as significant. The significance level is determined using a degree of confidence of 95% or an error rate of 5% ($\alpha = 0.05$). Table 5 shows the significant number of the correlation test results is 0.000. This number of value is smaller ($<$) than the determined number of 0.05. It means that there is a correlation between The Exposure of Violent Scenes in Grand Theft Auto V towards Aggressive Behavior in Teenagers

The third interpretation is the direction of the relationship between these two variables. The direction of the relationship between variables The Exposure of Violent Scenes in Grand Theft Auto V towards The Aggressive Behavior In Teenagers are expressed in the same direction, as seen from the correlation coefficient result that shows a positive number (+0.386).

Exposure of Violent Scenes in Grand Theft Auto V

The average score of respondents' answers to independent variables was 2.42. Based on the interval range of the research variable description measurement, the value of 2.42 is determined into the low or infrequently category. It is indicated that the average respondents in this research rarely exposed to violent scenes of Grand Theft Auto V. Cross-tab were occurred in this research to find out the relationship between The Exposure of Violent Scene in Grand Theft

Auto V towards sex and age. The results can be seen in the following table:

Table 2: Result of *Crosstabs* between Exposure of Violent Scenes in Grand Theft Auto V towards sex

Exposure of Violent Scenes in Grand Theft Auto V	Sex	Mean
Frequency	Male	2,06
	Woman	1,63
Duration	Male	2,63
	Woman	2,00
Intensity	Male	2,86
	Woman	2,20
Average Male Score		2,52
Average Woman Score		1,94

Source: Data processing, 2020

Table 3: Result of *Crosstabs* between Exposure of Violent Scenes in Grand Theft Auto V towards age

Exposure of Violent Scenes in Grand Theft Auto V	Age	Mean
Frequency	17 Years Old	1,96
	18 Years Old	1,91
	19 Years Old	2,02
Duration	17 Years Old	2,56
	18 Years Old	2,38
	19 Years Old	2,50
Intensity	17 Years Old	2,81
	18 Years Old	2,66
	19 Years Old	2,70
Average Score of 17 Years Old		2,45
Average Score of 18 Years Old		2,32
Average Score of 19 Years Old		2,41

Source: Data processing, 2020

Based on the results of crosstab, it is known that male respondents have a high score. Furthermore, by age, 17 years-old respondents had higher scores compared to 18 and 19 years-old. Examined based on the three dimensions, namely frequency, duration, and intensity, male respondents had a superior score on each indicator compared to the woman.

Aggressive Behavior in Teenagers

The average score of respondents' answers to dependent variables was 2.24. The value of 2.24 is determined into the low or infrequently category. It is indicated that the average respondents in this research had low aggressive behaviour. Crosstab was conducted to find out the relationship between Aggressive Behavior in Teenagers towards sex and age. The results can be seen in the following table:

Table 4: Result of Crosstabs between Aggressive Behavior in Teenagers towards sex

Indicators	Sex	Mean
Physical Aggression	Male	2,13
	Woman	1,94
Verbal Aggression	Male	2,25
	Woman	1,94
Anger	Male	2,16
	Woman	2,10
Hostility	Male	2,54
	Woman	2,38
Average Male Score		2,27
Average Woman Score		2,09

Source: Data processing, 2020

Table 5: Result of Crosstabs between Aggressive Behavior in Teenagers towards age

Aggressive Behavior in Teenagers	Age	Mean
Physical Aggression	17 Years Old	2,12
	18 Years Old	2,13
	19 Years Old	2,06
Verbal Aggression	17 Years Old	2,26
	18 Years Old	2,18
	19 Years Old	2,13
Anger	17 Years Old	2,21
	18 Years Old	2,27
	19 Years Old	2,05
Hostility	17 Years Old	2,66
	18 Years Old	2,34
	19 Years Old	2,39
Average Score of 17 Years Old		2,31
Average Score of 18 Years Old		2,23
Average Score of 19 Years Old		2,16

Source: Data processing, 2020

Based on the results above, it is known that male respondents had higher aggressive behaviour than woman respondents. Furthermore, 17 years-old respondents had higher aggressive behavior scores compared to 18 and 19 years of age based on age category.

Discussion

This research's objective was to determine the correlation between the exposure of violent scenes in Grand Theft Auto V towards aggressive behaviour in teenagers.

This study found a low, significant and positive correlation between exposure to violent video games and aggressive behaviour. It means that more exposure to violent scenes in Grand Theft

Auto V leads to teenagers' higher aggressive behaviour. Vice versa, if there is less exposure to violent scenes in Grand Theft Auto V, then there is lower aggressive behaviour in teenagers.

The media have the power to influence the mindset of individuals on a problem or phenomenon. Information obtained by the public using the five senses in consuming various media content types can lead to decision-making. Referring to the theory of imitation by Gabriel Tarde, which states "society is imitation" in which people are always imitating, people will easily imitate copycat, which also means imitate.

Adolescence is a developmental stage characterised by self-discovery, imitating, curiosity to try new things, and teenagers tend to be easily impressionable and sometimes emotionally unstable. Bandura (in Koswara, 1988) stated that observation of a model's behaviour would shape the observer's behaviour. In this case, the model's aggressive behaviour will also shape the aggressive behaviour of the observer. When someone is fed by the values of violence every day through broadcasts on mass media, the media can be a learning tool for the individual in learning various acts of violence, even integrating them into everyday life. The exposure of violent scenes in the video game Grand Theft Auto V can be accepted and interpreted by each teenager differently, depending on their circumstances

The exposure of violent scenes in Grand Theft Auto V contributed 38.6% to aggressive behaviour in teenagers. In comparison, 61.4% was influenced by other variables not examined in this research. R² for exposure to violent video games in explaining aggressive behaviour was 0.386, which indicates that 38,6% of aggressive behaviour was explained through aggression exposure.

The actions or decisions that a person takes towards the exposure of violent scenes are diverse, depends on how much one is exposed to the violent media. The frequency, intensity, and duration of playing and consuming violent scenes of Grand Theft Auto V also influence aggressive behaviour formation.

The low exposure of violent scenes in Grand Theft Auto V towards teenagers' aggressive behaviour can be caused by the distribution of respondents' answers dominated by respondents who played 1-2 hours a day, which amounted to 63 people or 42%. Besides, according to the frequency of respondents playing in a week, respondents who play 1-2 times a week, namely as many as 71 people or by 47.3%. The respondents had the most to fill their free time, which is 74 people or 49.3%.

According to Craig A. Anderson and Brad J. Bushman, sex affect aggressive behaviour tendencies. Men engaged in more aggressive actions than women and aggressive behaviour between men and women proved different. Besides, a large number of violent content in video games affects the demographic of the majority of players who are male. Men spend an average of 13 hours a week playing video games than women who spend only 5 hours (Anderson, Gentile, & Buckley, 2007; Jiwandono, 2015).

Known from the age category, respondents aged 17 years old had higher aggressive behaviour than respondents who were 18 and 19 years old. This pattern can be seen from the average score

of cross-tabulation results of aggressive behaviour in teenagers towards age

Based on the four dimensions on the dependent variable (Table 10), 17-year-old respondents had higher verbal aggression and hostility scores. It can be stated that 17-year-olds tend to choose aggressive behaviour in the form of verbal aggression, which is a vocal response that is done to hurt others by using words. Besides, 17-year-olds tend to commit hostility, which is an act that expresses hatred, hostility and antagonism towards others. Hostility represents an affective and cognitive component in aggressive behaviour.

Meanwhile, 18-year-old respondents had higher scores on physical aggression and anger. It can be stated that 18-year-olds tend to choose to perform aggressive behaviour in physical aggression, which is a form of aggressive behaviour that is carried out to hurt or injure another individual physically. Besides, 18-year-olds tend to commit anger, which is a form of indirect aggression in negative emotions. Meanwhile, respondents who were 19 years old had scores below the scores of 17- and 18-year-old respondents on four indicators, except in the hostility.

This research indicated a correlation between the exposure of violent scenes in Grand Theft Auto V towards aggressive behaviour in teenagers. It proved the relevance of explaining the media exposure theory and aggressive behaviour theory used in this research. The media exposure theory stated that the media is trying to see how the message's content in the media can make the audience give a positive or a negative response. Media exposure occurs when the audience opens up to messages from the media.

CONCLUSION

The current study indicated that exposure to violent video game was low on the aggressive behaviour of teenagers. Based on the discussion above, it can be concluded that first, overall, respondents are rarely exposed to violent scenes in Grand Theft Auto V. This can be seen from the respondent's average description score that shows the value of 2.42 and indicated as a low category. Male respondents were more often exposed to the violent scenes in Grand Theft Auto V than women respondents. According to the age's category, respondents aged 17 years old had higher scores on the independent variable, which is the exposure of violent scene in Grand Theft Auto V, compared to respondents aged 18 and 19 years.

Second, overall, respondents had low aggressive behaviour. This pattern can be seen from the average description score that showed a value of 2.24 and indicated as a low category. Known from the sex category, the male respondents had higher values in aggressive behaviour than the female. According to the age's category, 17-year-old respondents had higher values of aggressive behaviour than respondents aged 18 and 19 years.

Third, this research indicates a correlation between the exposure of violent scene in Grand Theft Auto V towards aggressive behavior in teenagers. The relationship between variables is indicated with a correlation value of 0.386, which is classified as low. Through this, it can be interpreted that exposure to violent scenes in Grand Theft Auto V contributed 38.6% to aggressive behaviour in teenagers. At the same time, 61.4% was influenced by other variables not examined in this research.

The direction of the relationship between independent and dependent variables is expressed in the same direction, as seen from the correlation coefficient result that shows a positive number. The direction of a one-way relationship means that more exposure to violent scenes in Grand Theft Auto V lead to higher aggressive behaviour in teenagers. On the contrary, if there is less exposure to violent scenes in Grand Theft Auto V, teenagers have lower aggressive behaviour.

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