

Violent Video Games Exposure, Aggression, Emotional Intelligence, and Prosocial Behaviour
among Pre-University Students of Universiti Kebangsaan Malaysia
(*Pendedahan Permainan Video Ganas, Keagresifan, Kecerdasan emosi, dan Tingkah Laku Prosocial
di kalangan Pelajar Pra-Universiti Universiti Kebangsaan Malaysia*)

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ABSTRACT

The increase of violent content in video games has become a growing concern among the general public. Violent video game exposure has been argued to negatively impact the mental and social development of its players, especially in adolescence. This study aims to investigate the influence of violent video game exposure on the aggression, emotional intelligence, and prosocial behaviour of the pre-university students of ASASIpintar program, Universiti Kebangsaan Malaysia. Instrument used in this study is the set of questionnaires constituted of three constructs: aggression, emotional intelligence and prosocial behaviour. The questionnaires were distributed online to 93 pre-university students, and the results indicate that about 60% of them were highly exposed to violent video games. Furthermore, the intensity of violent video games exposure significantly promotes to aggression tendencies among students who were engaged in the violent video games. In conclusion, though the level of aggression is low, ASASIpintar students who were engaged in violent video games have the tendency to more aggressive behaviour which in the long run may impact their academic achievement.

Keywords: violent video games, aggression, emotional intelligence, prosocial behaviour

ABSTRAK

Peningkatan kandungan ganas dalam permainan video telah menjadi perhatian di kalangan masyarakat awam. Pendedahan kepada permainan video ganas telah didebatkan sebagai memberi kesan negatif kepada perkembangan mental dan sosial pemain, khususnya remaja. Kajian ini bertujuan untuk menyiasat pengaruh pendedahan permainan video ganas terhadap keagresifan, kecerdasan emosi, dan tingkah laku prososial pelajar pra-universiti program ASASIpintar, Universiti Kebangsaan Malaysia. Instrumen yang digunakan dalam kajian ini ialah set soal selidik yang terdiri daripada tiga konstruk: keagresifan, kecerdasan emosi dan tingkah laku prososial. Soal selidik telah diedarkan secara atas talian kepada 93 pelajar pra-universiti, dan keputusan menunjukkan bahawa kira-kira 60% daripada mereka sangat terdedah kepada permainan video ganas. Tambahan pula, keamatan pendedahan permainan video ganas menggalakkan kecenderungan keagresifan secara signifikan, di kalangan pelajar yang terlibat dalam permainan video ganas. Sebagai kesimpulan, meskipun tahap keagresifan adalah rendah, namun pelajar ASASIpintar yang terlibat dalam permainan video ganas mempunyai kecenderungan untuk lebih agresif yang boleh memberi kesan kepada pencapaian akademik pada jangka masa panjang.

Kata kunci: permainan video ganas, keagresifan, kecerdasan emosi, tingkah laku prososia

INTRODUCTION

A video game is an electronic game that entails interplay with a user interface or gadget, namely a joystick, regulator, console, or motion-detecting instruments, to produce a visual response on a multi-dimensional video display. In simpler terms, it can be described as a game that we play with the aid of an audio-visual apparatus (Esposito, 2005). Video games are categorized into different groups based on their platform, which includes arcades, consoles, and PC games. In recent years, the industry has expanded to include mobile gaming through smartphones and tablets, as well as introducing remote cloud gaming. Based on their type of gameplay and purpose, video games are also classified into a wide range of genres. Recent evidence notes that most children's and adolescents' favourite video games often contain violence (Anderson et al. 2008). Popular video games such as Call of Duty, Player Unknown's Battleground (PUBG), and Grand Theft Auto (GTA) often contain an excessive amount of violence with the intent to cause injury or death to another person. They also feature violent actions such as sexual content, crime, and vandalism. In general, violent video games fall under the category of violent media.

Recently, there has been a lot in the news about the cause of online gaming addiction. For example, online video games had caused a 12-year-old boy from Jawa Barat, Jakarta to death (Khalil, 2021, para. 1) while teenagers in Wangsa Maju, Malaysia to skip schools (Bernama, 2015, para. 5). Concerns about the potential influence of violent video games on youth have been debated by the general public. According to Baki et al. (2008), students are influenced by video games in different aspects and degrees while researchers such as Anderson and Bushman (2001) and Carissoli and Villani (2019) had independently associated student aggression, emotional intelligence and prosocial behaviour with video gaming. While video games might be used as an experience-based learning tool to increase emotional intelligence abilities as studied by Carissoli and Villani (2019), the games might also increase aggression and decrease prosocial behaviour in adolescents as indicated by Anderson and Bushman (2001).

Aggression is defined by overt or covert harmful social interaction with the intention of inflicting damage or other unpleasantness towards another living being (Assaf et al. 2018). It includes hitting, kicking, biting, using weapons to harm and damage other individuals or objects. Aggression can be associated with interpersonal rejection (Debono & Muraven, 2014), high self-esteem, academic difficulties, family

characteristics, and bullying victimization (Henriksen et al. 2020). Aggressive behaviour has been established to violate social boundaries. It can lead to breakdowns of the social community (Xie et al. 2002).

Emotional Intelligence refers to the capability to understand one's personal and other individual's feelings, to identify the motivation behind them, and to successfully manipulate this information to guide one's thoughts, actions, and behaviour (Coleman, 2008; Salovey & Mayer, 1990). The term emotional intelligence or EI was made popular by science journalist, Daniel Goleman. Goleman defined EI as an array of skills and characteristics that drive leadership performance which can be classified into five major components: self-awareness, self-regulation, social skills, empathy, and motivation (Goleman, 1995). Studies have demonstrated that people with high EI possess greater mental stability, perform better at their jobs, as well as exhibit outstanding leadership qualities (Fernández-Abascal & Martín-Díaz, 2015) while those lacking in any of the aforementioned components face difficulty in managing and understanding their own emotions which results in negative and sometimes violent behaviour (Gugliandolo et al. 2015).

Prosocial behaviour is defined as a type of social behaviour with an intent to benefit others (Hammond, 2015). Conforming to social rules is also considered as prosocial behaviour (Baumeister & Bushman, 2007). These actions may be prompted by basic humanity and a concern for the wellbeing of other people as well as for selfish and practical reasons, such as boosting an individual's reputation and status, the expectation for gratification and acknowledgement, or adherence to a perceived system of equality (Eisenberg et al. 2007). Similarly, Weinstein and Ryan (2010) defined prosocial behaviour as a wide range of acts intended to assist other people which includes altruism, solidarity, and teamwork. Bierhoff (2002) also emphasized prosocial behaviour being performed voluntarily without underlying intentions or hope for compensation. Thus, activities such as assisting, sharing, and providing for someone else are examples of prosocial behaviour while work and paid obligations are not included.

Meta-analysis reviews on violent video games are found to be more thorough in addressing the concerns that comes with player engagement. One such research was conducted by Anderson and Bushman (2001) where they used a modern and comprehensive meta-analytic method to study the effect of violent video gameplay on six types of outcome variables namely aggressive cognition, aggressive affect, aggressive behaviour, physiological arousal, empathy, and prosocial behaviour. Their meta-analysis combined

the results of over 130 research studies consisting of over 130000 participants. The results of their analysis concluded that there exists a positive correlation between violent video games and aggressive cognition, aggressive affect as well as aggressive behaviour. They also deduced that violent video games have a negative impact on one's empathy for victims of violence and show a decrease in prosocial behaviour. Additionally, these effects were proven to be the same across genders, different ages, and cultures.

Another research studied by Greitemeyer and Mügge (2014) concluded with similar results. The meta-analysis proved that video games of different genres have significant effects on social outcomes. Depending on their content, video games may positively or negatively influence an individual's outward behaviour. The results revealed that violent video games increase aggressive behaviour and aggression-related variables while simultaneously decreasing prosocial behaviour. Contrastingly, nonviolent, or educational video games were shown to have the exact opposite effects.

A more recent meta-analysis on violent video games was carried out by Prescott, Sargent and Hull (2018) who examined 24 studies, with 5 studies appearing in the earlier meta-analysis by Anderson and Bushman (2001) and 8 studies from the meta-analysis conducted by Greitemeyer and Mügge (2014). This recent study also investigates the relationship between ethnicity and gameplay which was not emphasized in the other studies. The meta-analyses mentioned before mostly used Western samples which were found to exhibit a significant relationship between violent video game exposure to aggressive behaviour. Consequently, the 17000 participants in this study ranged from a wide variety of countries which includes the United States, Japan, Singapore, Germany, and few others from different continents. The participants' average age was calculated to be between 9 to 20 years old. Whilst different ethnicities were shown to moderate the effect of video game violence on aggression, the study still supports the general claim that violent video games increase aggressive behaviour over time.

Additionally, results from a study conducted by Baki et al. (2008) on video games indicated that participants are more reluctant to be helpful and caring towards others when playing video games. The participants admit to exhibiting more aggressive and violent behaviour as a negative effect of video game exposure. They are easily angered resulting in aggressive actions such as shouting, yelling, and hitting another individual. Some of the participants have also developed an affinity for cheating, lying, and other acts

of dishonesty to justify their video game addiction. All responses from the study can be concluded to further corroborate the notion that video games increase aggression as well as negatively affecting the emotional intelligence and prosocial behaviour of its players.

A similar study carried out by Abdul Latif et al. (2017) focusing on the impact of online video games among undergraduate students. Respondents of the survey consisted of 83 participants comprised of students from 14 Malaysian universities ranging from ages 18 until 24 years old. The questionnaire used in the study assessed the effect of online video game exposure, particularly massively multiplayer online games (MMOG), on the study time management, social life, and emotion of undergraduate students. Results from the study revealed that although online video games did negatively impact the variables mentioned prior, participants of the study agreed that the effects are at a minimum level. The majority of the participants claimed to be able to manage their actions and feelings without the influence of video game exposure.

Video games have been a subject of concern for practitioners, parents, scholars, and politicians due to the graphic depictions of violence and death they may feature. The growth in realism and violent content in video games in recent years has also been argued to promote aggressive actions, reduce prosocial behaviour, increase impulsivity and interfere with cognition as well as mood in its players (Anderson et al. 2010). Violent video games have grown in popularity among adolescents as many game developers are releasing video games marketed towards the younger demographic. According to a survey conducted by Rakuten Insight in March 2020, a large percentage of video game players in Malaysia are aged between 16 and 24 years old (Rakuten Insight, 2020). It must be noted that most young teens' and adolescents' favourite video games contain violent content (Anderson et al. 2008) which includes murder, shootings, and rape. This is particularly unsettling for parents and supervising adults as their children are exposed to explicit content at a young age which may have detrimental effects on their mental and social development. Many researchers have also pointed out violent video games as the primary cause of decreasing morale in young adults. However, most reported studies are mainly centred around participants in developed Western countries.

This research aims to examine the relationship between violent video game exposure, aggression, emotional intelligence as well as its effect on the prosocial behaviour of ASASIPintar students studying at Universiti Kebangsaan Malaysia.

Research Design

A quantitative study is conducted to examine the relationship between violent video game exposure and several other variables, specifically aggression, emotional intelligence, and prosocial behaviour among ASASIpintar students. Data is collected through a questionnaire distributed online. Participants of this study includes ASASIpintar students studying at Universiti Kebangsaan Malaysia. The population consists of 315 students ranging from ages 17 until 18 years old. The pilot test consists of 30 ASASIpintar students outside of the chosen group of participants. Only 93 out of 285 ASASIpintar students answered the online questionnaire, excluding the 30 students involved in the pilot study. The low rate of responses is due to the poor survey timing while some students might feel that the survey was not related to them.

Instruments

A self-reported questionnaire is constructed to collect the demographic data, violent video game exposure, aggression, emotional intelligence, and prosocial behaviour of ASASIpintar students. A total of four published scales are used in the questionnaire.

Violent Video Game Exposure

To measure violent video game exposure, a scale designed by Anderson and Dill (2000) is used. The scale requires participants to name three of their favourite video games. A list of the popular video games is compiled and included in the questionnaire for participants' reference. Participants are given the option to include video games other than the ones listed. After naming each video game, participants are asked to rate how often they play the game using a seven-point Likert scale with 1 indicating "Never" to 7 indicating "Always". They are also required to rate the violence of the game content with 1 being "No violent content" to 7 being "Extremely violent content" as well as the violence of the graphics with 1 specifying "No violent graphics" to 7 specifying "Extremely violent graphics". The violence exposure score for each participants' three favourite video games is obtained by summing the violent content and violent graphics ratings then multiplying with how often they played the game. The scores are subsequently averaged to determine the overall violent video game exposure of each participant. Higher scores correspond to greater exposure to violent video games.

To measure aggression, the Buss and Perry Aggression Questionnaire (Buss & Perry, 1992) is used. The questionnaire consists of 5 items designed to measure four types of aggression namely anger, hostility, verbal aggression, and physical aggression. The participants are required to provide their response based on a five-point Likert scale where 1 signifies "Strongly Disagree" to 5 signifies "Strongly Agree" with the statement. Items 9 and 16 are reverse scored. The total score of aggression for each participant is obtained by calculating the sum of the factor scores. A higher score indicates a greater level of aggression. The Cronbach's Alpha value for this instrument is 0.769.

Emotional Intelligence

To measure emotional intelligence, the Trait Emotional Intelligence Questionnaire-Adolescent Short Form (TEIQue-ASF) (Petrides & Furnham, 2001) is used. The questionnaire comprises 5 items specifically constructed to evaluate trait emotional intelligence (EI). The items are rated according to a five-point Likert scale where 1 indicates "Strongly Disagree" to 5 indicates "Strongly Agree". After reverse scoring several items, the sum of the ratings is calculated to determine the emotional intelligence (EI) of each participant. Higher scores are attributed to a higher degree of emotional intelligence. The Cronbach's Alpha value for this instrument is 0.761.

Prosocial Behaviour

To measure prosocial behaviour, a scale outlined by Caprara et al. (2005) called the Prosocialness Scale for Adults is used. The scale consists of 5 items which are rated based on a five-point Likert scale with 1 indicating "Strongly Disagree" to 5 indicating "Strongly Agree". Participants are asked to rate the scale according to how strongly they agree or disagree with the statement. The score is attained by calculating the mean for all items. Higher scores reflect greater self-reported prosocial behaviour. The Cronbach's Alpha value for this instrument is 0.910.

Data Analysis

The data collected is analysed using IBM SPSS v27 software. The level of violent video game exposure, aggression, emotional intelligence, and prosocial behaviour among ASASIpintar students are determined by the mean score. The relationship

between violent video game exposure and each of the three independent variables: aggression, emotional intelligence and prosocial behaviour in ASASIpintar students is determined by performing a Spearman's Rank Correlation test using the data obtained from the questionnaire. Spearman's rank correlation coefficient has a value ranging from -1 to 1. Obtaining a positive value indicates a positive relation between violent video game exposure and aggression in ASASIpintar students. Conversely, a negative value will indicate a negative relation between the variables. The Spearman's rank correlation is preferred to Pearson correlation as the study emphasizes on determining the strength and direction of the monotonic relationship between two variables rather than the strength and direction.

RESULTS

Data obtained from the questionnaire is analysed into

descriptive and inferential results.

Descriptive results

The demographic data was obtained with the use of descriptive statistics of the independent variables. From Table 2, it was determined that only 56 out of the 93 respondents were engaged in violent video games. There is a preponderance of male students who engage in violent video games compared to female students. Table 3 indicates the level of violent video game exposure, aggression, emotional intelligence, and prosocial behaviour among ASASIpintar students who were engaged in violent video games. The level of violent video game exposure of ASASIpintar students is high ($\mu = 5.8274$), the level of aggression is low ($\mu = 2.7393$), the level of emotional intelligence is moderate ($\mu = 3.0821$) and the level of prosocial behaviour is moderate ($\mu = 3.7143$).

TABLE 1. Mean interpretation for 7-point Likert scale

Mean score	Level
$5.00 \leq \mu \leq 7.00$	High
$3.00 \leq \mu \leq 4.99$	Moderate
$1.00 \leq \mu \leq 2.99$	Low

TABLE 2. Demographic data of respondents

		Frequency	Percentage (%)
Gender	Male	38	40.8602
	Female	55	59.1398
Engage in violent video games	Yes	56	60.2151
	No	37	39.7849
Engage in violent video games according to gender	Male	31	55.3571
	Female	25	44.6429

TABLE 3. Descriptive statistics among students who were engaged in violent video games

	N	Minimum	Maximum	Mean	Std. Deviation
Exposure	56	6.00	58.67	5.8274	12.47478
Aggression	56	1.40	4.20	2.7393	.61968
Emotional	56	1.40	5.00	3.0821	.75681
Prosocial	56	1.80	5.00	3.7143	.71540
Valid N (listwise)	56				

Inferential results

Table 4 shows that there is a weak positive significant relationship between violent video game exposure and aggression in ASASIpintar students. As the exposure to violent video game increases, the aggression in

ASASIpintar increases. Furthermore, there is no significant relationship between violent video game exposure and emotional intelligence, and between violent video game exposure and prosocial behaviour of ASASIpintar students who were engaged in violent video games.

TABLE 4. Spearman's rank between violent video game exposure and the other variables for ASASIpintar students who were engaged in violent video games (N = 56)

	N	Violent video game exposure
Aggression	56	0.263*
Emotional	56	-0.05
Prosocial	56	0.125

*. Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

The present study indicates that about 60% of ASASIpintar students were highly exposed to violent video games. Among those who were highly exposed to violent video games though, the aggression level is low while both the emotional intelligence and the prosocial behaviour levels are moderate. The correlation tests show that students who have high exposure to violent video games have the tendency to more aggressive behaviour which may impact on their academic achievement. This finding supports the theory that violent content and graphics featured in popular video games promote aggressive and hostile actions among

adolescents. This finding is also consistent with those indicated by Greitemeyer and Mügge (2014), Prescott, Sargent and Hull (2018), and Anderson and Bushman (2001). Additional findings obtained from the survey revealed that PlayerUnknown's Battlegrounds (PUBG) and Mobile Legends as the top two video games most commonly played by ASASIpintar students. Both of these video games are noted to revolve around violent gameplay with depictions of killing and death. The emotional intelligence and prosocial behaviour of ASASIpintar students does not seem to be affected by violent video game exposure. The data implies that ASASIpintar students' emotional intelligence and prosocial behaviour are not influenced by violent video

game exposure despite being exposed to high level of violent content in video games. The results differ from some other studies as ASASIpintar students are high expectancy students aiming for academic excellence, hence spending less time for video gaming. The students ranging from 18 to 19 years old have above-average intelligence thus they are more emotionally mature and can express their feelings more coherently. They are also able to manage their emotions, feelings and actions without being influenced by video gaming. Future research should aim to survey a younger audience who are more influenced by video game content.

Even though the internal validity and reliability of the survey are strong, there are some limitations that should be noted in the present study. The generalizability of the results is limited by the small sample size of ASASIpintar students who engage in violent video game exposure. Parents and school management should aware that the violent video games might be seemed harmless nonetheless the effect of it is overwhelming especially to the younger children.

CONCLUSION

This research aimed to determine the relationship between violent video game exposure, aggression, emotional intelligence, and prosocial behaviour among ASASIpintar pre-university students. From the results, it can be concluded that there is a positive correlation between violent video game exposure and aggression indicating that the intensity of violent video game exposure leads to the aggressive behaviour among ASASIpintar students. In contrast, there is no relationship found between violent video game exposure and the emotional intelligence and prosocial behaviour of ASASIpintar students. It is important to recognize and understand the various effects of violent video game exposure on ASASIpintar students, especially in terms of exhibiting aggressive tendencies. Moreover, even though exposure to violent video games has been found of not having any effect on emotional intelligence and prosocial behaviour of students, they should moderate their engagement with violent video games to minimize the negative consequences it may bring. To better understand these negative implications, future studies should highlight the severity of violent video game exposure and its effect on student's academic performances and well-being. Parents and counsellors should identify the factors that influence students to play violent video games and set restrictions in an effort for the students to be able to reach their potential to the fullest.

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