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Investigating the Relationship between Playing Violent Video Games and Viewing Violent TV Programmes and Aggressive Behaviour Among Pre-Teens

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ABSTRACT

This study aimed to investigate the relationship between the playing of violent video games and the viewing of violent TV programmes and aggressive behaviour among pre-teens. According to McGahee, Kemp and Tingen (2000), pre-teens referred to preadolescent children who are usually between 9 and 12 years of age. A total of 450 pre-teens aged 11 were randomly selected from nine schools in the state of Selangor, Malaysia, to participate in this study. This study employed a correlation research design and the data were analysed using both descriptive and inferential statistics to address the research objectives. The data were analysed to identify the top 10 favourite video games played by pre-teens in this study. Eight out of 10 video games played by pre-teens were found to be violent in nature. In addition, the top 10 favourite violent TV programmes viewed by pre-teens in this study were also identified. Findings from this study showed that there was a significant difference in the mean score of playing violent video games [$t(257)=6.979$, $p<0.01$] and viewing violent TV programmes [$t(440)=3.544$, $p<0.01$) between boys and girls who participated in the study. Moreover, the results from this study revealed there was a significant and positive relationship between playing violent video games ($r=0.167$, $p<0.01$), viewing violent TV programmes ($r=0.126$, $p=0.000$) and aggressive behaviour demonstrated by pre-teens. Multiple regression analysis showed that 39.4% of the variances in pre-teen physical aggression could be explained by both the playing of violent video games and the viewing of violent TV programmes, with the playing of violent video games as a stronger predictor of physical aggressive behaviour in pre-teens ($\beta=0.238$, $p=0.025$).

Keywords: Playing of video games, viewing of TV programmes, aggressive behaviour, pre-teens

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INTRODUCTION

Aggressive behaviour is conceptually defined as an external behaviour of a person with the intention to harm another person who does not want to be harmed (Geen, 2001). In the study of aggressive behaviour development in children, children who show aggressive acts in early childhood are linked to criminal and delinquency in later adolescence and adulthood if this tendency towards aggressive behaviour is left untreated (Christakis & Zimmerman, 2007). Mass media has been highlighting news portraying schools with badly behaved students. Recent cases of aggression in schools have gained attention in Malaysia. According to Berita Harian on 28 December, 2010, 111,484 (2.06%) students were involved in disciplinary problems in 2010. Among the reported disciplinary cases, 72,557 (65.08%) cases involved secondary school students while 38,927 (34.92%) cases involved primary school students. School students were most likely to get involved in disciplinary problems like crime (17,595 cases), truancy (19,545 cases), impolite attitude (18,346 cases), inappropriate personal grooming (21,384 cases), being late (17,808 cases), obscenity (3,031 cases), vandalism (5,212 cases) and juvenile (8,563 cases). In addition, there is an increase of youth misconduct and delinquency among Malaysian youth. According to Malaysian Youth Report (2007), there was an increase in juvenile arrests in 2006, which was a 33% jump from 1998. In 2006, among the number of criminals arrested (54,009 cases), 14.7% or 7,971 were juveniles. The arrestable offenses by juvenile delinquents included murder, rape, robbery, grievous bodily harm, theft, snatch theft and house-breaking (Baba, 2007).

To sum up, the increment trend of violent crime among juveniles in Malaysia within these few years is in an alarming state. Therefore, students should be deterred from participating in or initiating acts that will disrupt or flout school discipline. Such deterrence needs to be seriously pursued by all involved parties such as teachers, education researchers, counsellors and policy makers.

MEDIA VIOLENCE EXPOSURE

Media violence in this study referred to visual portrayals of aggressive acts delivered by one person against another (Huesmann & Taylor, 2006). Incidents of media violence exposure studied in this research were video game and TV violence exposure. Video game violence exposure referred to exposure to violent actions featured by actors in video games such as beating monsters, brutal mass killings and shooting enemies. Meanwhile, TV violence exposure referred to exposure to all violent elements that appeared on the TV screen. These included exposure through broadcasting distributed by cable and satellite systems as well as hardware such as VCD and DVD.

Based on the General Aggressive Model (GAM) developed by Anderson and Bushman (2002), media violence such as that seen in video games and TV programmes can exert both short-term and long-term effects on children's behaviour

leading to aggressiveness. This is because the exposure to sources projecting violence promotes the formation of aggressive cognition scripts, increases arousal and finally creates an aggressive affective state over time that will result in aggressive behaviour.

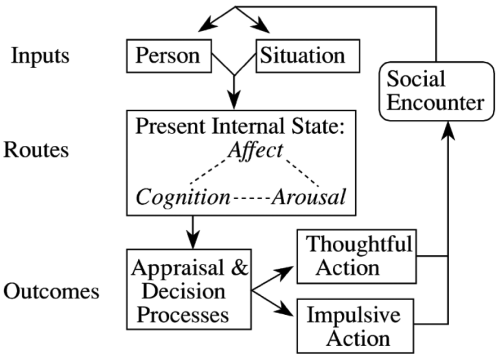
In line with Anderson and Bushman (2002), Coyne and Archer (2005) also stated that exposure to media violence brings negative short-term and long-term outcomes to its audience, especially children and adolescents. Short-term effects are the likelihood of behaving aggressively after watching violent television programmes and playing violent video games (Coyne & Archer, 2005). On the other hand, long-term effects are the effects of this exposure that continue from childhood, resulting in aggression in adult life that culminates in adult criminality and delinquency (Bushman & Huesmann, 2006).

In general, the aim of this study was to determine the relationship between the playing of violent video games and the viewing of violent TV programmes and aggressive behaviour among pre-teens. Independent t-test was conducted to compare the mean scores of playing violent video games and viewing violent TV programmes recorded for male and female students. The data was further examined to determine the predictors of aggressive behaviour among school children by using simple linear regression analysis.

GENERAL AGGRESSION MODEL (GAM)

The General Aggressive Model (GAM) was utilised in this study to explain the influence of media violence on the development of aggressive behaviour in children. In recent years, many researchers have endorsed a theoretical model called the General Aggressive Model (GAM: Anderson & Bushman, 2002) to study the impact of media violence on aggressive behaviour in children (Bushman & Anderson, 2002; Ferguson *et al.*, 2008). This model integrates the existing theories of aggression such as social information processing (Crick & Dodge, 1996), Bandura's theory of social learning (1973), the script theory (Huesmann & Miller, 1994), the excitation transfer model of Zillmann (1983, as cited in Anderson & Bushman, 2002), and the cognitive neo-associationist model of Berkowitz (1994) into a broader framework.

Generally, GAM indicates the types of underlying process to examine how various inputs lead to the development of aggressive behaviour. GAM focusses on the "person in the situation," called an episode, consisting of one cycle of an ongoing social interaction. Figure 1 presents a simplified version of main foci of the model. The GAM episode processes focus on (1) person and situation inputs; (2) cognitive, affective and arousal routes through the impacts of input variables; and (3) outcomes of the underlying appraisal and decision processes.



Source: Anderson & Bushman (2002, p. 34).

Fig.1: The general aggression model for episodic processes

In person and situation inputs, person factors consist of all the characteristics that a person brings to the situation such as personality traits, gender, values, attitudes, beliefs and genetic predispositions. Situation factors consist of the presence of provocation, frustration, anger, pain and discomfort or aggressive cues (Anderson & Bushman, 2002). According to Anderson and Bushman (2002), both the person factors and situation factors influence cognition such as hostile thoughts and scripts; affection like mood, emotion and expressive motor responses; and arousal state in the episode processes. As shown in Figure 1, the contents of these three routes are interconnected. Research has shown that people tend to use their affective states to guide them in inference and judgment processes (Barrett, Gross, Christensen & Benvenuto, 2001). The third focus in the episode processes is outcome which includes several complex information processes ranging from the relatively automatic to the heavily controlled (Anderson & Bushman, 2002). As denoted in Figure 1, results from the inputs enter the appraisal and decision processes through their impacts on cognition, affection and arousal states. The outcomes of these decision processes determine the action of the episode. The final outcomes then cycle through the social encounter to become part of the inputs for the next episode.

GAM is not only concerned about episode and the present internal state, but also the past experience that a person brings to the episode. Exposing children to several violent factors, especially violent media repeatedly, increases the likelihood of the children behaving aggressively (Huesmann & Miller, 1994). GAM proposes that exposure to various violent stimuli through media such as violent television programmes, video games and computer games has both short-term and long-term effects on the development of aggressive behaviour among children. Based on GAM, children who watch more violent media tend to develop more violent scripts which have impacts on the development of aggressive behaviour problems.

SOCIAL LEARNING THEORY

Social learning theory was also utilised in this study. SLT proposed that aggressive behaviour is learned through observation or imitation of an aggressive model and maintained through positive and negative reinforcement (Bandura, 1973). According to Geen (2001), violence exposure in a child's surroundings such as school, home

and the fantasy world of violent television programmes and violent video and computer games will trigger the development of aggressive behaviour in that child. The likelihood of a child displaying aggressive behaviour is high if the child experiences rewards from his/her aggressive behaviour. Eyal and Rubin (2003) suggested that when an aggressive act of a child is repeatedly rewarded with positive outcomes such as social approval or pleasantries, the child will act in the same way again.

Bandura (1973) proposed that children did not just learn new behaviour through observation and imitation, but also made cognitive inferences according to their observations and imitations. These cognitive inferences will then lead to the generalisations in their behaviour. For instance, children who observed violence in the family are not only more likely to behave aggressively but might also have stronger beliefs that acting aggressive is acceptable. In short, the social learning theory explains the mechanisms leading to acquisition and performance of aggression, in accordance with the principles of observational learning, learning through conditioning and direct experience.

RESEARCH OBJECTIVES

Research objectives for this study are as follows.

1. To identify top 10 favourite video games played by children.
2. To identify the top 10 violent TV programmes viewed by children.
3. To determine the mean difference of playing violent video games and viewing violent TV programmes between boys and girls.
4. To determine the relationship between playing violent video games and aggressive behaviour in children.
5. To determine the relationship between viewing violent TV programmes and aggressive behaviour in children.
6. To determine the extent to which aggressive behaviour in school children can be explained by the playing of violent video games and the viewing of violent TV programmes.

METHODOLOGY

Participants

This study employed a descriptive correlation research design. A total of 450 pre-teens aged 11 were randomly selected from nine schools in Selangor State to participate in this study. The samples comprised 229 (50.9%) males and 221 (49.1%) females. Data collection involved the provision of a directly-administered questionnaire to respondents.

Instruments

Two instruments were administered to collect the research data. The first instrument was the Children Aggression Inventory (CAI) and the second was the Media Violence Exposure (MVE).

Children Aggression Inventory (CAI)

Children Aggression Inventory (CAI) was developed based on the definitions proposed by Geen (2001), Richardson and Green (2006), Ramírez and Andreu (2006), and Buss and Perry (1992) to assess aggressive behaviour in subjects. It is a self-report questionnaire that can be administered to children aged between 10 and 12. This inventory was scored based on a 3-point Likert scale. CAI consisted of 38 items from five aggression dimensions such as physical aggression, verbal aggression, indirect aggression, anger and hostility. CAI was translated into the Malay language before it was administrated to the subjects. The scale was validated by a panel of experts comprised of three local psychologists. The reliability of the CAI in this study was found to be high (α=0.90).

Media Violence Exposure (MVE)

Violent Media Exposure (MVE) was utilised to examine the exposure to violent TV programmes and video games by the respondents. Exposure to violent video games and TV programmes was measured in four aspects: names of favourite video games and TV programme, frequency of video game playing and TV programme viewing and the violence level of the graphics and content in video games and TV programmes. The violent elements in the video games and TV programmes were then evaluated by the panel of experts from Faculty of Modern Language and Communication, Universiti Putra Malaysia (UPM) and the Entertainment Software Rating Board (ESRB). ERSB is a software rating board designed to provide concise and impartial information about the content

TABLE 1
Description of Violent Elements in Video Games

Violent Element	Description
Blood and gore	Depictions of blood or the mutilation of body parts
Cartoon violence	Violent actions involving cartoon-like situations and characters; may include violence where a character is unharmed after the action has been inflicted
Fantasy violence	Violent actions of a fantasy nature involving human or non-human characters in situations easily distinguishable from real life
Intense violence	Graphic and realistic-looking depictions of physical conflict; may involve extreme and/or realistic blood, gore, weapons and depictions of human injury and death
Language	Mild to moderate use of profanity
Lyrics	Mild references to profanity, sexuality, violence, alcohol or drug use
Sexual violence	Depictions of rape or other violent sexual acts
Strong language	Explicit and/or frequent use of profanity
Strong lyrics	Explicit and/or frequent references to profanity, sex, violence, alcohol or drug use in music.
Violence	Scenes involving aggressive conflict; may contain bloodless dismemberment
Violent references	References to violent acts

TABLE 2
Description of Violent Elements in TV Programmes

Violent Element	Description
Physical violence	Including physical force like hitting and slapping, kicking, pushing, scratching others, fighting, fighting with weapons and killing
Verbal violence	Yelling or screaming, threatening, gossip, being foul-mouthed or using coarse language, being abusive and being argumentative
Fantasy violence	Including superhero stories, adventure or fantasy (the use of magic and the supernatural) and science fiction that involve inflicting injuries or loss
Graphic violence	Portraying bloody or frightening scenes.

Source: Adapted from TV Parental Guidelines Monitoring Board

in computer and video games to consumers, especially parents so that they can make an informed decision to purchase or not to purchase the item. The violent elements in video games played were determined according to ERSB rating and descriptor guide. There are 11 violent elements in the video games evaluated by ERSB i.e. blood and gore, cartoon violence, fantasy violence, intense violence, language, lyrics, sexual violence, strong language, strong lyrics, violence and violence references. The description of these violent elements are depicted in Table 1.

Meanwhile, there were four violent elements in TV programmes viewed: physical violence, verbal violence, fantasy violence and graphic violence. The description of these violent elements are shown in Table 2.

The TV programme violence rating was then verified by the panel according to the indicators provided in Table 3.

TABLE 3
Indicators for TV Programme Violence Rating

Rating	Indicators
Very violent	Consists of large amount of violent content as givenin Table 1
Violent	Consists of violent content as given in Table 1
Less violent	Consists of little violent content as given in Table 1
Not violent	Does not consist of any violent content as given in Table 1

Source: Adapted from TV Parental Guidelines Monitoring Board

The score for exposure to violent TV programmes was computed by multiplying the frequency of reported TV programme viewing with the violence rating by the respondent. After that, the mean score for the three TV programmes reported by the respondent was calculated. Accordingly, the score for exposure to violent video games for each respondent was computed. The reliability of MVE in this study was found to be high (α=0.82).

FINDINGS AND DISCUSSION

The research findings provided meaningful information on the playing of violent video games and the viewing of violent TV programmes as reported by the respondents. The following are the findings and discussions for this study.

Top 10 Favourite Video Games Reported by Respondents

The top 10 favourite video games reported by the respondents in this study aere presented in Table 4.

TABLE 4
Top 10 Favourite Video Games Reported by Respondents

Video Game	Frequency (*f*)	Percentage (%)
Grand Theft Auto (GTA)	67	20.55
WWE Smackdown vs. Raw 2011	51	15.64
FIFA 2011	50	15.34
Pro Evolution Soccer 2011	28	8.59
Naruto Shippuden	25	7.67
Counter Strike	24	7.36
Need for Speed: Undercover	15	4.60
Plants vs. Zombies	14	4.29
Tekken 6	12	3.68
The Sims 2	11	3.37

As shown in Table 4, Grand Theft Auto (GTA) was reported as the video game most favoured by the respondents (20.55%), followed by WWE Smackdown vs. Raw 2011 (15.64%) and FIFA 2011 (15.34%). Among the 10 video games reported by the respondents, eight were found to be violent in nature. They were Grand Theft Auto (GTA), WWE Smackdown vs. Raw 2011, Naruto Shippuden, Counter Strike, Need for Speed: Undercover, Plants vs. Zombies, Tekken 6 and The Sims 2. FIFA 2011 and Pro Evolution Soccer 2011 contained no violent element as given in Table 1. The violent ratings of the video games were conducted based on the Entertainment Software Rating Board (ESRB) ratings. From this, it may be inferred that most of the video games in the market contain violent elements. This may possess potential influence on pre-teen aggressive behaviour.

Top 10 Favourite TV Programmes with Violent Elements Reported by Respondents

The top 10 favourite TV programmes with violent elements reported by the respondents in this study aere shown in Table 5.

TABLE 5
Top 10 Favourite TV Programmes with Violent Elements Reported by Respondents

TV Programmes	Frequency (*f*)	Percentage (%)
Naruto Shippuden	41	26.62
WWE Raw 2011	16	10.39
Ben 10	16	10.39
Masked Rider Ryuki	13	8.44
Kamen Rider: Dragon Knight	11	7.14
The Adventures of Jimmy Neutron: Boy Genius	8	5.19
Bleach	7	4.55
El Tigre	7	4.55
One Piece	6	3.89
Ultraman Mebius	6	3.89

A total of 131 respondents (34.44%) reported that they watched at least one violent TV programme in the week. As shown in Table 4, Naruto Shippuden was the favourite violent TV programme among the respondents (26.62%), followed by WWE Raw 2011 (10.39%), Ben 10 (10.39%), Masked Rider Ryuki (8.44%), Kamen Rider: Dragon Knight (7.14%), The Adventures of Jimmy Neutron: Boy Genius (5.19%), Bleach (4.55%), El Tigre (4.55%), One Piece (3.89%) and Ultraman Mebius (3.89%). The violent ratings of the TV programmes were conducted based on the expert panellists' ratings.

Gender Differences in the Playing of Violent Video Games and the Viewing of Violent TV programmes

Gender differences in the playing of violent video games

Results as shown in Table 6 indicated that there was a significant difference ($t(257)=6.979$, $p<0.01$) in the mean scores for playing violent video games between boys ($M=29.784$, $SD=34.997$) and girls ($M=10.551$, $SD=12.718$) who participated in this study. An inspection of the two means suggested that the boys were more exposed to violent video games than the girls. This is consistent with the findings from past studies which reported that boys played more and preferred more violent video games than girls (Funk, Baldacci, Pasold & Baumgardner, 2004). Besides this, the boys were found to spend more time on playing violent video games than the girls in this study. This is parallel with the findings from previous studies which reported that boys spent more time playing video games than girls (Hastings, *et al.*, 2009). Since the eta-squared value obtained ($\eta^2=0.12$) in this study portrayed a medium-sized effect, this indicated that the difference in playing violent video games between boys and girls was medium.

Gender differences in TV programme viewing

According to the results in Table 6, there was a significant difference in the mean score of the viewing of violent TV programmes between the boys ($M=6.45$, $SD=4.61$) and the girls ($M=5.02$, $SD=3.89$) with $t(440)=3.544$ and $p<0.01$. Inspection of the two means revealed that the boys were more

TABLE 6
T-test on Playing Violent Video Games and Viewing Violent TV programmes Between Boys and Girls

Variable	Gender	N	*M*	*SD*	t value (2-tailed)	Sig. (*p* value)	η^2
Playing violent video games	Boys	192	29.784	34.997	6.979	0.000	0.12
	Girls	134	10.551	12.718			
Viewing violent TV programmes	Boys	229	6.45	4.61	3.544	0.000	0.03
	Girls	221	5.02	3.89			

Note: Levene test indicates that the *p* value of equal variances not assumed was used; *M*=Mean; *SD*=Standard Deviation; Sig.=Significance; η^2=eta-squared.

likely to watch violent TV programmes than the girls. The eta-squared value obtained (η^2=0.03) in the study was considered to be small. It suggested that the mean difference in viewing violent TV programmes between the boys and the girls was rather small. Although the difference between males and females in watching violent TV programmes was small, this finding implied that the boys were more exposed to violent TV programmes compared to the girls. This result was parallel with previous findings which suggested that the boys were more likely to report exposure to violent TV programme than girls (Gentile, Linder & Walsh, 2003).

Relationship between Playing Violent Video Games, Viewing Violent TV Programmes and Aggressive Behaviour

Pearson Correlation was employed to examine the relationship between playing violent video games, viewing violent TV programmes and aggressive behaviour in children. The results as given in Table 7 indicated significant relationships between playing violent video games (r=0.167, p<0.01), viewing violent TV programmes (r=0.126, p<0.05) and aggressive behaviour.

TABLE 7
Correlations Between Playing Violent Video Games, Viewing Violent TV programmes and Aggressive Behaviour

Aggression	Playing violent video games *r*	Viewing violent TV programmes*r*
Aggression	0.167**	0.126*
Physical	0.319**	0.214**
Verbal	0.098	0.107
Indirect	0.079	0.039
Hostility	0.014	0.008
Anger	0.076	0.047

Note: *p<0.05, **p<0.01

Relationship between playing violent video games and aggressive behaviour in children

Based on Cohen's (1988) guideline, there was a positive relationship between violent video game playing and aggressive behaviour (r=0.167, p<0.01). Among the five constructs of aggression, only physical aggression correlated significantly with playing violent video games. The results were incongruent with previous studies, showing that playing violent video games was positively correlated with physical aggression in children (Möller & Krahé, 2009).

This finding indicated that the more pre-teens were exposed to violent video games, the greater the likelihood that they would behave aggressively. This finding was in line with the findings of studies conducted by Barlett and Rodeheffer (2009), Slater, Henry, Swaim and Anderson (2003), Anderson *et al*. (2003), Funk, *et al*. (2004), Bartholow, Sestir, and Davis (2005), Dill & Dill (1998), Richmond and Clare (2008), Anderson and Bushman (2001), Boxer, Huesman, Bushman, O'Brien, and Moceri (2009), Bushman and Anderson (2002), Krcmar and Lachlan (2009), Gentile, Mathieson and Crick (2010), Ivory and Kalyanaraman (2007), Anderson and Dill (2000), Bartholow and Anderson (2002) and Krahé and Möller (2010). It can be

concluded that exposure to media violence especially violence portrayed in video games was associated with aggressive behaviour among pre-teens.

In sum, the present findings supported previous research which suggested that the exposure to violent video games would increase the likelihood of aggressive behaviour among pre-teens.

Relationship between viewing violent TV programmes and aggressive behaviour in children

The findings of this study revealed a slight but positive linear relationship between exposure to violence in TV programmes and aggressive behaviour (r=0.126, p<0.05). This finding indicated that the more pre-teens were exposed to violent TV programmes, the more likely they were to behave aggressively. Among the five constructs of aggression, only physical aggression correlated significantly with the viewing of violent TV programmes.

These results were supported and were in line with findings by Anderson *et al*. (2003), Kronenberger *et al*. (2005), Krahé and Möller (2010), Bushman and Anderson (2001), Gentile, Linder, and Walsh (2003), Buchanan, Gentile, Nelson, Walsh, & Hensel (2002), Mitrofan, Paul and Spencer (2008), Murray (2008), Hastings *et al*. (2009), Chory (2010), Felson (1996), Feshbach and Tangney (2008), Bushman and Huesmann (2006), Huesmann *et al*. (2003), and Christakis and Zimmerman (2007). In addition, Comstock (2008) concluded that pre-teens were particularly susceptible to the influence of television violence, and the greater the exposure to violent portrayals, the greater the likelihood of engaging in aggressive or antisocial behaviour.

Thus, the research findings of this study provide evidence that exposure to violence in TV programmes is associated with aggressive behaviour among pre-teens. The more pre-teens are exposed to violent TV programmes, the greater the likelihood that they will display aggressive acts.

In sum, the evidences from this study support the idea that children who are exposed to media violence specifically through video games (Anderson & Bushman, 2002; Dill & Dill, 1998; Polman, de Castro & van Aken, 2008; Bartholow and Anderson, 2002; Möller & Krahé, 2009) and TV programmes (Geen, 2001; Krahé & Möller, 2010; Bushman & Huesmann, 2006; Anderson, *et al*., 2003; Chory, 2010; Christakis & Zimmerman, 2007; Huesmann *et al*., 2003) tend to engage in aggressive behaviour. According to Anderson *et al*. (2003), exposure to media violence has short-term effects on aggressive acts by priming aggressive thoughts, increasing physiological arousal and triggering an automatic tendency to imitate observed behaviours especially among children and pre-teens.

Predictors of Aggressive Behaviour

To determine the best set of predictor variables in predicting physical aggressive behaviour, multiple regression using the enter method was utilised. Analysis showed that both the playing of violent video games

(t=2.252, p=0.025) and the viewing of violent TV programmes (t=0.837, p=0.043) were found to be significant in explaining physical aggressive behaviour. The findings are reported in Table 8.

TABLE 8
Estimates of Coefficients for the Physical Aggression Model (Enter Method)

Aggressive Behaviour	Beta (Standardised Coefficients)	t	p-value
Constant		30.288	0.000
Playing violent video games	0.238	2.252	0.025
Viewing violent TV programmes	0.079	0.837	0.043

Note: R= 0.394; R^2=0.155; Adj.R^2=0.144, F=14.659, p=0.000

The results given in Table 8 showed that the best predictor of pre-teen aggressive behaviour was the playing of violent video games (β=0.238, t=2.252, p=0.025), followed by the viewing of violent TV programmes (β=0.079, t=0.837, p=0.043). Playong violent video games was the strongest significant predictor explaining the physical aggression since the variance explained by other predictor variables in the model was controlled. It was suggested that one standard deviation increase in the playing of violent video games was followed by 0.238 increase in physical aggressive behaviour. On the other hand, the beta value for viewing violent TV programmes was 0.079. It implied that one standard deviation increase in the viewing of violent TV programmes was followed by 0.079 standard deviation increase in aggressive behaviour. The R-squared of 0.155 implied that the two predictor variables explained about 15.50% of the variance in physical aggressive behaviour demonstrated by children. These findings showed that both the playing of violent video games and the viewing of violent TV programmes play important roles in the understanding of behavioural problems displayed by pre-teens with attention to physical aggression.

CONCLUSION

The findings of this study added novelties to the growing literature regarding the effects of playing violent video games and viewing violent TV programmes on pre-teen physical aggression. Furthermore, this study identified a list of violent video games played and TV programmes viewed by pre-teens in Malaysia. The majority of the video games reported by pre-teens were violent in nature. With respect to the relationship between playing violent video games, viewing violent TV programmes and aggressive behaviour, playing violent video games and viewing violent TV programmes were positively related to pre-teen physical aggressive behaviour.

Considering early emergence of behavioural problems among youths nowadays, it is crucial to identify the salient factors that contribute to pre-teen behavioural problems in the early years. This study provides important information to students, parents, teachers, institutions of education, education policy makers and researchers in the field of Education,

Psychology, Counselling and Guidance and Mental Health as well as the Department of Social Welfare in order that holistic strategic measures may be implemented to keep youth aggression at bay. Intervention programmes curbing aggressive behaviour among pre-teens by incorporating controls in the playing of violent video games and the viewing of violent TV programmes is highly recommended.

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