

ORIGINAL ARTICLE

Effects of playing violent video games on teenagers' behavior – An experience from Malaysia

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Citation

Marzo RR, Ahmad A, Bhattacharya S, Mun FY, Rahman JA, Batcha SBA, Rajiswaran S, Hon LC. Effects of playing violent video games on teenagers' behavior- A cross sectional study from Malaysia. Indian J Comm Health. 2019;31(2):179-184.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 04/05/2019; **Revision:** 25/05/2019; **Accepted:** 15/06/2019; **Published:** 30/06/2019

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Abstract

Introduction: Violent behaviours among teenagers have increased significantly over the years and the mean age of the crime has become younger. **Aim and Objective:** Our objective was to determine the effects of video games on male teenagers' behaviors among population in the 24 secondary schools Muar, Johor, Malaysia. **Methodology:** This was a cross sectional study. Our sample size was 380 and the age of the respondents were between 13-16 years. Data was collected by using 4 sets of questionnaires, which are demographic information (4 items), Multi-Dimensional Emotional Empathy Scale (24 items), Buss-Perry Aggression Questionnaire (29 items) and Self Report Altruism scale (20 items). **Results:** Our results showed that 78.41% students were violent video gamers. Out of 380 students, 156 students (40.1%) engaged with videogames less than 2 hours per day, 151 teenagers (38.8%) used to play between 2 and 4 hours per day and only 82 teenagers (21.1%) used to play for more than 4 hours per day. About 70% of respondents score was lower than standard in both physical and verbal aggression. Level of altruism is one of the objectives in this research. **Discussion:** Our results documented that there is a relationship between the video games and the aggressive behaviour even the prosocial behaviour as well. Though the assessment of the aggression, the participant showed more on the anger and hostility attitude. Video games not only related to aggression but also it is related to the diminishing the sense of empathy among teenagers. **Conclusion:** We concluded in our study that most of the participants showed that they prefer violent video games, most of them are not empathetic and they don't have altruism attitude.

Keywords

Violence; Videogames; School students; Aggression, Empathy, Altruism

Introduction

Video games have been a popular leisure activity amongst teenagers since the first video game, Magnavox Odyssey, was introduced in 1972. This home entertainment has come a very long way, technologically, since then. According to a survey by Statista 2016, the number of video gamers in Malaysia has a steady increasing pattern from 2012 to 2014. From 7.62 million gamers in 2012, the number rose to 8.7 million in 2013. And by 2014, there were 9.9 million gamers in Malaysia alone.(1) Violent behaviours among teenagers have increased significantly and the mean age of the crime has become younger. A lot of studies have been conducted in order to identify the sources of violent behaviours among teenagers. In Ireland, a large longitudinal study of children has indicated that over half of nine-year old children are playing video games daily, while the international adolescence literature indicates that the rate of game play is growing year on year.(2)

There is a concern that the effects of video games playing are larger than the effects observed with television and film viewing, and that children and young people may be at a greater risk of negative effects as a consequence of exposure to violent video games (VVGs).(3) A correlational study found in 2004 that, violent video games tended to decrease empathy more than violent films (J Funk et al 2004). The study also found that violent films had a greater effect on pro-violence attitudes than VVGs did. The authors do not note this discrepancy, instead claiming that '[a]s anticipated, exposure to video game violence was associated with lower empathy and stronger pro-violence attitudes'.(4)

The role of violent videogames play in aggressive behaviour has been of special interest to many psychologists, partially because of the potential link between violent games and the aggressive attitude shown by the teenagers which is worsen as time go on.

Aims & Objectives

1. To determine the effects of video games on male teenagers' behaviors among population in Muar, Johor, Malaysia.
2. To determine the relationship between video games and level of aggressive among male teenagers.
3. To study the association of video games and empathic behaviour among male teenagers.

4. To verify, the connection between video games and level of altruism among male teenagers associate with video gaming.

Material & Methods

This was a non-experimental, quantitative, survey design, correlational study, descriptive in nature. The predictor variables used were; time spent gaming, gender, type of video games played and age. The criterion variables used were; level of empathy, level of direct aggression and level of altruism. This was a within-participants design. The total population of Muar was 247,957 whereas the total population of teenagers in Muar was 32,376. The confidence level 95% and confidence interval of 5 was used. Our sample size was 380. The respondents that participated in this study were aged 13-16. Random number generator has picked High School Muar as the site of this study from the total of 24 secondary school in Muar, Johor which was conducted from November 2016 to December 2016.

The study was approved by the Medical Research Ethics Committee (MREC) of Asia Metropolitan University, Selangor, Malaysia. Since our participants are students between 13 to 16 years old, hence consent form are sent to headmaster of the respective school. The participants are informed about the objectives and design of the study ensuring their participation were voluntary. Confidentiality is held utmost throughout the study. Written consent was obtained.

Data is collected by using 4 sets of questionnaires, which are demographic information (4 items), Multi-Dimensional Emotional Empathy Scale (24 items), Buss-Perry Aggression Questionnaire (29 items) and Self Report Altruism scale (20 items). There were 5 paged instruments were developed. The Buss-Perry Aggression Questionnaire (BPAQ) is a popular measure of aggression in adults. Men show a higher level of aggression than women (Archer, 2004). The empathy scale measures emotional aspects of empathy and can be used to measure general emotional empathy as well as providing detailed subscales. The Self Report Altruism was designed to assess level of altruism of an individual via self-report.(5)

Content validity was done by experts in respective questionnaire. Buss has reported a 5-week test-retest reliability of 0.78 for this subscale for physical aggression and 0.72 for the verbal aggression. Siegel has reported reliability coefficients for the subscale

of 0.83 for a college sample. Scores on this instrument have a 3-year test-retest correlation of 0.84.(6)

The internal consistency of the four factors of aggression was done by computing the Cronbach's alpha with respective factors. Physical Aggression $\alpha = .85$, verbal Aggression $\alpha = .72$, Anger $\alpha = .83$ and Hostility $\alpha = 0.77$.(6)

The questions were directed toward the effect of video games regarding the level of aggression, empathy and altruism. The questionnaire was translated from English to Bahasa Malaysia without changing the original meaning which was verified by Bahasa Malaysia teacher.

Multi-dimensional Emotional Empathy Scale has Cronbach alpha coefficient for the entire scale of 30 items was found to be 0.88. By using the 26 items that formed six factors in the scale yielded an alpha coefficient of 0.86. The alpha Coefficients for the six subscales ranged between 0.44 and 0.80 (Empathic Suffering =0 .80; Positive Sharing =0.71; Responsive Crying =0.72; Emotional Attention =0 .63; Feeling for Others = 0.59; Emotional Contagion =0.44).(7)

Results

Since our population size is around 33000, so our respondents will be 383. In our research, there were 389 respondents were participated.

All the 389 respondents are from of 13, 14, 15 and 16 years old students who study in High School Muar. Age distribution are shown in Violent video gamers were 78.41% and non-violent video gamers were 21.59%. Majority of them 156 (40.1%) played for under 2 hours per day, 151 teenagers (38.8%) played for between 2 and 4 hours per day and only 82 teenagers (21.1%) played for more than 4 hours per day.(Table 1)

Questionnaire used in our research are Buss-Perry Questionnaire, Multi-dimensional Emotional Empathy and Self Report Altruism Scale.(8) All the measures are using Likert scale, which record between 1 and 5 scale. Level of aggression are measured according to score, which is score of 1 would be considered the least aggressive behaviour and score of 5 would be consider as the most aggressive behaviour.

Level of aggression is one of the objectives in our research. By using Buss-Perry Questionnaire scale as our measure, it divided into 4 sub-factors, which are physical aggression, verbal aggression, anger and hostility. Question 1 to 9 are discussing about

physical aggression, question 10 to 14 are about verbal aggression, question 15 to 21 about the anger aggression, and question 22 to 29 are about hostility aggression. Each of the sub-factors is correlated with our variables (type of video games and time spent on it). By comparing with the standard mean score which is proven, lower than the standard mean score is considered as low level of aggression, whereas higher than standard mean score shows that the individual having high level of aggression.

However, physical aggression and verbal aggression of our respondents don't show significant while compare to the standard mean score. About 70% of respondents are score lower than standard in both physical and verbal aggression.

There are 7 questions present in Buss-Perry Questionnaire about the anger aggression and standard score is 17.0. Mean score for the studied respondents were 18.70, which is higher than the standard. There were more than 60% of respondents are score higher than standard mean, with is significant to our study.

Standard score for the level of hostility is 21.3. Mean score of the respondents were higher than the standard, which are 23.92. It means that more than half (68.64%) of the respondents are score higher than standard. There were only 31.36% of respondents are score lower than standard. (Table 2) For the classification of the capacity to understand or feel what another person's suffering, (question 2,3,4,5,7,10,14,15,19,21,22), the respondents' mean summed up to 3.57. This indicates that the respondents' mean is lower as compared to the normal mean. Hence, the video gamers show lesser empathic suffering.

For the positive sharing classification (question 11,17,18,23,24), the respondents' mean summed up to 3.68. This indicates that the respondents' mean is also lower as compared to the normal mean. Hence, the video gamers show lesser positive sharing.

For the responsive crying classification (question 1,20), the respondents' mean summed up to 3.10. This indicates that the respondents' mean is lower as compared to the normal mean. Hence, the video gamers show lesser responsive crying.

For the feeling for others classification (question 8,12,16), the respondents' mean summed up to 3.10. This indicates that the respondents' mean is lower as compared to the normal mean. Hence, the video gamers show lesser feeling for others.

For the emotional contagion classification (question 6,9,13), the respondents' mean summed up to 3.40. This indicates that the respondents' mean is higher as compared to the normal mean. Hence, the video gamers show more emotional contagion. This is the only category that shows higher respondent's mean than the normal mean. This shows that the video gamers show low empathic behaviour in general. (Normal general mean = 3.48; Respondents' general mean = 3.29)

In the (Table-3) a less than standard and more than standard is shown. The Table-3 was constructed by comparing the respondent's mean to the standard mean. It is found that the category (A), (B), (C), and (D) shows higher percentile value in the less than standard as compared to the more than standard's percentile value. On the other end, category (E) was the only category with a higher value in the more than standard percentile.

Level of altruism is one of the objectives in this research. The questionnaire used is self-report altruism scale as our measure. There is total of 20 questions in this set of questionnaires. The data is analysed by divided into four subgroups score. The normal range for low level of altruism is between (20-40 scores), low average of altruism between (41-60 scores), high average altruism is (between 61-80 scores) and high altruism is (more than 81 scores). The Table-4 below shows the distribution of the scores by the total of 389 respondents.

The results shows 37.5% which is 146 students are under the category of low altruism group and the mode score is 35 and 40. 53.8 % which is 209 students are under the category of low average altruism group and the mode score is 41 and 44. 8.2 % which is 32 students shows a high average altruism and the mode score is 61 and only 0.5 % which is 2 students showing high altruism with mode score of 87 and 91. Thus the hypothesis is accepted as video games do affect the altruism of a person as what show in the results of the survey more than 90% of the students show low average altruism and low altruism.(Table 4)

Discussion

An abundance of research exists which links violence on television to aggressive beliefs and behaviours. (9-10) After analyse the data, the results show that there is relationship between the video games and the aggressive behaviour even the prosocial behaviour as well. Abundance of research exists

show the same links as the results obtained in this study which found the relationship regard to videogame use and aggression.(9,10) As such, the present survey was designed from a cognitive-neo associationistic perspective in an attempt to directly examine this association. Though the assessment of the aggression, the participant showed more on the anger and hostility attitude. Secondary students are preselected as they were the teenagers group and they were more likely to be affected by out sources on their behaviors. Their academic achievement might be also affected by playing video games.(11)

Video games not only related to aggression but also it is related to the diminishing the sense of empathy among teenagers. Empathy is one of the "self-conscious emotions" critical for moral evaluation. The results showed that most of the participants had low level of empathy in most of the aspect. It had been carried out by few studies previously. Besides that, lower empathy has been associated with social maladjustment and aggression in youth.(12) In another study, aggressive elementary school children showed less empathy than their nonaggressive peers (Boldizar, Perry, & Perry, 1989). On the other aspect, Empathy develops in response to positive socialization experiences such as the opportunity to view empathic models and to experience feedback about behavioural choices.(13-15)

Previous studies had proved that playing prosocial video games tend to lead prosocial behaviours tendencies and that prosocial tendencies tend to lead to selection of prosocial games.(16)

Conclusion

We concluded in our study that most of the participants showed that they prefer violent video games, most of them are not empathetic and they don't have altruism attitude.

Recommendation

In future research, other prosocial behaviours which can be improve through video games among teenagers can be conducted. Additionally, future research should examine the relationship between playing video games and academic achievement among the teenagers.

Limitation of the study

Our sample size was small, so we can-not generalize our results.

Relevance of the study

As most of the participants showed that they prefer violent video games, most of them are not empathetic and they don't have altruism attitude, this is not good for any society.

Authors Contribution

All authors have contributed equally from concept design to making the final draft.

Acknowledgement

We do acknowledge all the participants.

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Tables

TABLE 1 RESULT FOR DEMOGRAPHIC QUESTIONNAIRE

Characteristics	Number	Percentage (%)
Respondents	389	100%
Age		
13	120	30.85
14	113	29.05
15	69	17.74
16	87	22.36
Time Spent on video games		
Under 2 hours per day	156	40.10
2 to 4 hours per day	151	38.82
Over 4 hours per day	82	21.08
Type of video games		
Violent video games	305	78.41
Non-violent video games	84	21.59
Reason to play video games		

As a hobby	199	51.16
To pass time	202	51.93
To connect with other people	159	40.87
As an escape from problems or stress	204	52.44
Others	34	8.74

TABLE 2 SHOWING THE STANDARD MEAN SCORE COMPARE TO THE RESPONDENT’S SCORE WITH THE CORRESPONDING DISTRIBUTION.

Category	Standard score	Mean score of 389 respondents	Less than standard		More than standard	
			Frequency	Percentile (%)	Frequency	Percentile (%)
Physical Aggression	24.3	21.81	275	70.10	114	29.90
Verbal Aggression	15.2	13.00	271	69.67	118	30.33
Anger	17.0	18.70	151	38.82	238	61.18
Hostility	21.3	23.92	122	31.36	267	68.64

TABLE 3 RESULTS FOR EMPATHY BASED ON CATEGORIES OF QUESTION IN COMPARE TO STANDARD MEAN

Category	Standard mean	Respondent’s mean	Less than standard		More than standard	
			Frequency	Percentile	Frequency	Percentile
Empathic suffering	3.97	3.57	295	75.8%	94	24.2%
Positive sharing	3.82	3.68	249	64 %	140	36%
Responsive crying	3.10	2.71	279	71.7%	110	28.3%
Feelings for others	3.10	2.95	243	62.5%	146	37.5%
Emotional contagion	3.40	3.55	176	45.2%	213	54.8%

TABLE 4 SHOW THE CATEGORY OF THE ALTRUISM BASED ON THE SCORING OF THE STUDENTS

Category	Range score	Total number	Total percentage
Low altruism	(20-40)	146	37.5 %
Low average altruism	(41-60)	209	53.8 %
High average altruism	(61-80)	32	8.2 %
High altruism	(81-100)	2	0.5 %