

# The Effect on Playing Violent Video Games among School Going Children

Ohood Othman Felemban<sup>1†</sup>, Ahlam Eidah Al-Zahrani<sup>2</sup>, Atheer Naife Alhazmi<sup>3</sup>, Renad Fahad Alahmadi<sup>3</sup>, Ahad Mohammed Alsali<sup>3</sup> and Rand Nabil Alahmadi<sup>3</sup>

## ABSTRACT

**Background:** Playing violent video games may negatively affect children's behaviours. Excessive use of violent video games has been shown to limit children's relationships and negatively affect their moods and emotions, as well as diminish their performance in school. The aim of the study was to assess the effect of violent video games on school-going children.

**Methods and findings:** A cross-sectional quantitative study was conducted in Jeddah with a convenience sample of 203 children (114 boys and 89 girls). The children were 7-12 years old. Data were collected by sending a link to the online survey through a social media application (WhatsApp). They were then analysed using the Statistical Package for the Social Sciences (SPSS) Version 23. The results of the study showed that the majority of participants (95.1%) liked to play video games. About 40.9% of them expressed sometimes wanting to imitate the violent action that they saw in the games. Most (72.4%) of the participants felt angry or frustrated when they lost while playing games. About 66.5% of the participants reported being exhausted after playing video games for a long time. Around 53.7% stated they had been irritated and frustrated when their parents asked them to end the game for a meal, sleep or study.

**Conclusion:** the findings indicate that playing violent video games may have direct effects on children's moods and emotions which makes them react aggressively like shouting and fighting with sibling. Playing video games may decrease prosocial behaviour of children and makes them more isolated. Further research is needed to examine the effect of playing violent video games on children's attitudes.

**Keywords:** Violent video games; Children; Behaviour

## Introduction

According to the World Health Organization [1], violence is a public health challenge defined as the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community. It is an unacceptable attitude in a community. Understanding the impact of violent video games on attitudes and behaviours is an important topic [2]. Generally, exposure to violent game content has been shown to encourage several unhealthy behaviours, such as fighting, anger and isolation [3]. Nowadays, children find violent video games entertaining and enjoyable, even though they may be impacted by the violent content. Violent video game is defined as "a video game in which the range of options available to a

player includes killing, maiming, dismembering, or sexually assaulting an image of a human being"[4]. There are major concerns regarding continuous exposure to violent video games and their subsequent effects on younger children and their development [5].

Children between 7 and 12 years of age are more likely to be influenced by watching violence because they are vulnerable to negative stimuli [6]. This age group had a higher rate of imitating what they had seen in video games, especially violent video games, which more quickly led to a deeper effect on their behaviour [6]. The research has also suggested that playing violent video games may negatively affect children's behaviours [7]. A study found that when exposed to violence, children may become actually or

<sup>1</sup>Public Health Department, Nursing College, King Abdulaziz University, Jeddah, Saudi Arabia

<sup>2</sup>Maternity and Child Health Department, Nursing College, King Abdulaziz University, Jeddah, Saudi Arabia

<sup>3</sup>Nursing College King Abdulaziz University, Jeddah, Saudi Arabia

<sup>†</sup>Author for correspondence: Ohood Othman Felemban, Public Health Department, Nursing College, King Abdulaziz University, Jeddah, Saudi Arabia, Telephone: +966556817818; E-mail: Ofelemban@kau.edu.sa

potentially aggressive through imitation of what they see [7]. In contrast, other studies have indicated no significant correlation of violent video games with behaviour or attitudes [8-10]. Some research highlighted the positive aspect of violent video games especially if it was designed with care and used in the proper context. As they are likely to be used in simulation training to develop psychomotor skill for real life events such as training required for armed forces [11-13].

Other research has also highlighted the relationship between playing violent games and children's behaviours, as well as the effect of playing violent games according to gender [3-11]. The excessive use of violent video games has been associated with limiting children's relationships and negatively affecting their moods and emotions, as well as diminishing their performance in school. A study was aimed to assess the effect of using electronic media on behavioural and emotional issues of Australian children [11]. The study found that increased use of violent video games may cause negative emotional effects on children, such as isolated and aggressive behaviour. The results showed variations between girls and boys. Of the 401 boys that participated in the study, 18.0% had peer problems, 20.3% had emotional problems, 21.0% had conduct problems and 24.7% had hyperactivity/inattention problems. In contrast, of the 475 girls that participated in the study, 22.3% had peer problems, 24.2% had emotional problems, 17.7% had conduct problems and 13.5% had hyperactivity/inattention problems. They concluded that an increase in the use of violent video games led to the various negative effects represented, such as isolated and aggressive behaviour. The research suggests that when exposed to violence, a child may become actually or potentially aggressive through imitation of what they see [6]. A particular study aimed to explain the relationship between frequent exposure to media violence and a child's conduct [6]. The results showed that, for young children, observing and then imitating violent behaviours occurred more quickly and was more intense.

Exposure to violence may also negatively affect not only behaviours but also aspects of the cognitive and social domains in children [3]. A study conducted in Turkey explored the effect of student's excessive gaming on social aspects [5].

The results found that four main dimensions were affected by excessive games: low school performance, selective social relationships, problems in the classroom, and communication issues. The continuous playing of violent games by children may become a habit and could lead to a high risk of them developing violent attitudes [2-7]. A study conducted in Taif, Saudi Arabia, investigated the possible relationship between media violence and aggressive behaviour in children [7]. The findings suggested that children aged between 10 and 12 were at a higher risk of being aggressive. Playing violent video games has been associated with children's diminishing performance in school. A study conducted in India assessed the impact of playing violent video games on children and reported poor academic performance, with boys having lower performance when compared to girls [2].

Violence is considered an undesirable and unhealthy behaviour all over the world. Continuing to play violent games may become a habit for children and could lead to a high risk of them developing violent attitudes, and it has been associated with diminishing performance in school. The study aimed to assess the effect of violent video games among schoolchildren in Saudi Arabia. One of the Saudi Vision 2030 goals is to improve the quality of community health through encouraging healthy behaviours, and children are the future of the nation. Therefore, it is important to assess the effect of violent video games on children in Saudi Arabia to highlight the extent of the problem and develop intervention strategies and policies to reduce any negative effects on attitudes and behaviours. This will help to enable the governmental sector to achieve the goals of Saudi Vision 2030.

---

## Methods

This cross-sectional quantitative study was conducted to assess the effect of playing violent video games on school-going children. Data were collected from 12 March to 7 April 2020. A convenient sample of children of both sexes, between 7 and 12 years of age, Saudi and non-Saudi, who lived in Jeddah, were recruited. Potential participants who did not play violent video games were excluded. The data were collected by distributing a link to an online questionnaire through a social media application (WhatsApp). The aim, purpose of the study,

consent form and researchers' contact details were included.

A self-structured and pre-tested questionnaire was used to collect the data after taken permission from the author [8]. The questionnaire consisted of two parts. Part 1 was for demographic data, including age, gender, qualification and occupation and socio-economic status. Part 2 consisted of 25 questions related to video gaming behaviours and the effects of playing video games. The questionnaire was based on information from the related literature review. It was then revised by two experts in the field. The data obtained from the completed questionnaires were analysed using SPSS Version 23 in the form of percentages and frequencies. Ethical approval was obtained from the Faculty of Nursing at King Abdulaziz University. Furthermore, no harm was imposed on the participants and their rights were respected and protected with confidentiality.

**Results**

A total of 203 children participated in the study. A majority of the participants were boys (114 or 56.2%), while the number of girl participants was 89 (43.8%). The distribution of the participants' ages was as follows: 7 years old (22.2%), 8 years old (10.3%), 9 years old (19.2%), 10 years old (16.7%), 11 years old (11.8%) and 12 years old (19.7%). The fewest participants were children 8 years old (10.3%), and the most were 12 years old (19.7%).

Table 1, shows that about (27.1%) of the participants preferred fighting games, with boys indicating a higher percentage (33.3%) than the girls (19.1%). About 23.2% of the participants preferred playing racing games, with more girls (32.6%) selecting that type of game than boys (15.8%). About 96.6% of participants played violent video games because they thought it was the best way to spend time (94.7% of boys and 98.9% of girls).

Table 2, illustrates the distribution of reactions and emotions in frequencies and percentages for boys and girls. Approximately 53.6% of the participants (59.6% of the boys and 46% of the girls) experienced irritation/frustration when their parents' stopped them from playing video games. Also, 43% tended to fight with their siblings after they got frustrated. There were no major differences between the genders. Most of the participants (81.3%) enjoyed playing video games. Approximately 55.2% reported shouting as a result of their anger as a reaction. A greater percentage of boys (63.1%) reported shouting out of anger than girls (45%).

Table 3, presents the distribution of the children's priorities after school hours. Around 56.7% of the participants preferred to play video games after school hours (63% of the boys and 48% of the girls). About 43.3% preferred to do the following day's homework (52% of the girls and 37% of the boys).

Table 4, presents the results of the participants' intentions in applying the actions seen while

**Table 1: Distribution types of preferences, attractiveness & parent's monitoring.**

Distribution types of preferences, attractiveness & parent's monitoring		Boys		Girls		Total	
		Count	%	Count	%	Count	%
What type of video games you prefer most?	Action games	26	22.8	15	16.9	41	20.2
	Racing games	18	15.8	29	32.6	47	23.2
	Sport games	24	21.1	2	2.2	26	12.8
	Puzzle games	8	7	26	29.2	34	16.7
	Fighting games	38	33.3	17	19.1	55	27.1
	Total	114	100	89	100	203	100
Why do you think violent video games are more attractive to play?	Fun to play	0	0	1	1.1	1	0.5
	Adventurous	4	3.5	0	0	4	2
	Thrilling	2	1.8	0	0	2	1
	Best things to spend time	108	94.7	88	98.9	196	96.6
	Total	114	100	89	100	203	100
Do your parents monitor the content of the video games you play?	Yes	73	64	71	79.8	144	70.9
	No	41	36	18	20.2	59	29.1
	Total	114	100	89	100	203	100

**Table 2: Distribution of reactions and emotions presented by frequencies and percentage for boys and girls.**

Distribution of reaction and emotions among children		Boys		Girls		Total	
		Count	%	Count	%	Count	%
How do you react when your parents stop you from playing video games for a long time?	Irritated/frustrated	68	59.6	41	46	109	53.6
	Aggressive with your parents	13	11.4	9	10	22	11
	Quietly shutting down the game	33	29	39	44	72	35.4
	<b>Total</b>	114	100	89	100	203	100
How do you react when you lose a game with your sibling?	Fighting	46	40.3	41	46	87	43
	Quarrelling	29	25.5	9	10.1	38	18.6
	Simply congratulate him/her	39	34.2	39	44	78	38.4
	<b>Total</b>	114	100	89	100	203	100
Do you feel any of these emotions while you are playing video games?	Frustration	16	14	14	16	30	14.8
	Distress	0	0	1	1	1	0.5
	Enjoyment	95	83.3	70	78.6	165	81.3
	Fear	3	3	4	4.4	7	3.4
	<b>Total</b>	114	100	89	100	203	100
If you are angry, what is your reaction?	Crying	23	20.1	36	40.4	59	29
	Fighting with friends	19	17	13	14.6	32	15.8
	Shouting	72	63.1	40	4.5	112	55.2
	<b>Total</b>	114	100	89	100	203	100

**Table 3: Distribution of children's priorities after school hours.**

Distribution of children's priorities after school hours		Boys		Girls		Total	
		Count	%	Count	%	Count	%
What do you prefer to do after school hours?	Play video games	72	63	43	48	115	56.7
	Do the next day's homework	42	37	46	52	88	43.3
	<b>Total</b>	114	100	89	100	203	100

**Table 4: Distribution of applying the actions of video games in reality.**

Distribution of applying the actions of video games in reality		Count	%
Do you want to apply or copy the actions they watch in video games in real life?	Never	77	37.9
	Sometimes	83	40.9
	Yes	43	21.2

playing video games to real life. About 40.9% of the participants felt that they sometimes intended to apply or copy the actions they saw in video games, while 21.2% of them wanted to apply them in real life and 37.9% of the participants indicated that they did not want to apply such actions in real life. Approximately 76.8% of the participants preferred to play video games with their siblings, while 92.1% enjoyed playing with their friends. About 14.8% reported feeling frustrated while playing. In addition, 30.5% of the participants fought with their friends when they lost a game. About 72.4% of the participants felt angry or frustrated when they lost, and 47.8% of the children were

affected by the results of the games, as they had a direct effect on their moods.

### Discussion

Although research has been conducted to examine whether violent video games affect children's behaviours, different answers have been found with no definitive answers. Some research continues to suggest that violent video games may lead children to behave violently, while others suggest the opposite. This study aimed to assess the effect of violent video games among school-going children in Saudi Arabia. The study used several variables previously suggested in the literature to determine if there was an effect.

Our findings showed that the participants preferred fighting games over other types of games, and violent video games were selected as best for spending time. Mostly, boys chose to play fighting games, while girls preferred racing games. These results were similar to the findings of Khalil, et al. who published their results in 2019, which showed that participants were more passionate about playing violent video games than other types of video games. Their results suggest that fighting/ violent games pose a problem within children, and their violent content may likely lead to aggression and violent attitudes among children.

According to the results of the reaction and emotions of the participants with regard to playing video games, the current study found that the majority of participants (53.6%, 59.6% of the boys and 46% of the girls) perceived feelings of irritation and frustration when their parents asked them to stop playing video games after they had been playing for a long time. In contrast, 35.4% of the participants (29% of the boys and 44% of the girls) reported quietly shutting down the game after being told. This finding suggests that the girls were less emotionally affected than boys. It is worth noting that when the participants lost a game with their siblings, 40.3% of the boys and 46% of the girls tended to fight as a reaction. Generally, children in the age group of the participants can manifest an internal desire to foster competitive behaviour; therefore, parents should participate in developing positive skills through encouraging their children in healthy competition and the ability to accept losing in a game by reducing negativity and conflict reactions. Approximately 55.2% of the participants declared that their reaction when they felt angry while playing was shouting at their friends. About 30.5% of the participants tended to fight when they lost, while 72.4% felt angry or frustrated when they lost games. These findings are similar to those in the literature which suggest that violent video games may negatively affect the relationships of children with people in their lives, which may cause peer and emotional problems, such as isolated and aggressive/violent behaviour [2-11].

In addition, the study examined participant's priorities after school hours. The findings showed that 56.7% of the participants preferred to play video games after school hours rather than doing

their homework (63% of them were boys). In contrast, 43.3% of the participants preferred to do the following day's homework after school (52% were girls). This result suggests that a majority of the boy participants ignored doing their homework for the sake of playing video games, which may negatively affect their school performance. Previous research has stated that low school performance is one of the four main dimensions affected by children playing violent video games. Our findings are also consistent with the previous studies that compared the academic performance of boys and girls who played violent video games and found that boys had lower academic performance than girls [2-5].

Moreover, our results showed that 23.2% of the participants, regardless of gender, did not like to play with their siblings, and 7.9% did not like to play with their friends. This suggests that those participants preferred to play alone. This finding is similar to other studies, which suggested that playing video games may decrease the prosocial behaviour of children.

Interesting points in the distribution of the data regarding applying the actions of video games were that 40.9% of the children felt that they sometimes wanted to copy the actions and about 21.2% wanted to apply the actions in reality. These findings are consistent with those of studies, which suggested that playing violent video games may slightly influence children towards behaving violently in real life [9-11]. However, the research argued that sometimes violent video games are beneficial because they could be used to prepare people to face real-life situations [11-12].

One limitation of the study was that it was originally planned to collect data through interviewing the children face to face; however, this had to be changed due to the sudden lockdown of the COVID-19 pandemic, which prevented the researcher from using a face-to-face method. Thus, it was distributed as an online survey instead. The sample size of the study was small because of difficulties in reaching the participants as planned due to school closings and students transferring to online learning. Time constraints also imposed limitations.

This study assessed the effect of playing violent video games among school-going children. The

findings indicate that playing violent video games may diminish different aspects of a child's life, such as behaviours, social life, and school performance. The results of the study showed a correlation between violent video games and children's habitual development, through affecting fundamental aspects of their lives, which could correspond with problems in the community. This includes noticeable differences in behavioural and attitude issues, such as frustration and aggression. Specific examples include fighting with friends/siblings when they lose a game, low school performance, a solitary lifestyle and emotional fluctuations, including joy, distress and fear. Emotional fluctuations reported by some children have direct effects on their moods. It is very important to motivate children to engage in outdoor activities and teach them certain skills, such as playing sports, arts, etc., including improving their social relationships. This will help reduce the risk of problematic violent video gaming and strengthen positive outcomes in general functioning. The results of this study suggest that finding strategies to encourage children to consume less time using video games would also be helpful. Also, parental guidance and participation are helpful, along with child awareness through frequent monitoring, the selection of educational games

free from violence that are appropriate for a child's age.

---

### Conclusion

This study highlighted the effect of playing violent games on emotions and reactions among school-going children. Similar studies on these effects in other cities of Saudi Arabia need to be conducted to further assess the effects and increase our understanding.

---

### Acknowledgement

We would like to thank everyone who contributed and cooperated to made it possible for this research to be conducted and completed especially during the sudden exceptional COVID- 19 pandemic.

---

### Funding

The author(s) received no financial support for the research.

---

### Declaration of conflict interest

The Author(s) declare(s) that there is no conflict of interest.

## References

1. World Health Organization. Violence, injuries and disability. (2020).
2. Khalil S, Sultana F, Muzammil K, et al. Impact of Playing Violent Video Games Among School Going Children. *Ind J Community Health* 31, 331-337 (2019).
3. Ruzic Baf M, Rajovic R, Debeljuh A. ICT, Digital Rest (or Tiredness?) Spending Free Time in Front of a Screen. *TEM Journal* 6, 883-887 (2017).
4. Defining and Understanding Violent Video Games [Internet]. Robert Wood Johnson Foundation. (2021).
5. Yilmaz E, Yel S, Griffiths MD. The impact of heavy (excessive) video gaming students on peers and teachers in the school environment: A qualitative study. *Addicta: The Turk J Addictions* 5, 147-161 (2018).
6. Şengönül T. Negative effects of media on children and youth' socialization process: A study on violent and aggressive behaviors. *Cukurova Uni Faculty Edu J* 46, 368-98 (2017).
7. Dhafar O, Algarni G, Mubarak S, et al. Impact of Media Violence on Aggressive and Criminal Behavior of Young Population in Taif City, Saudi Arabia. *Int J Pharm Res Allied Sci* 7, 91-100 (2018).
8. DeCamp W, Ferguson CJ. The impact of degree of exposure to violent video games, family background, and other factors on youth violence. *J Youth Adolescence* 46, 388-400 (2016).
9. Lobel A, Engels RC, Stone LL, et al. Video gaming and children's Psychosocial Wellbeing: A longitudinal study. *Journal of Youth and Adolescence* 46, 884-897 (2017).
10. Merritt A, LaQuea R, Cromwell R, et al. Media managing mood: A look at the possible effects of violent media on affect. *Child & Youth Care Forum* 45, 241-258 (2015).
11. Mundy LK, Canterford L, Olds T, et al. The association between Electronic Media and emotional and behavioral problems in late childhood. *Acad Pediatrics* 17, 620-624 (2017).
12. Olson CK, Kutner LA, Baer L et al. M-Rated Video Games and Aggressive or Problem Behavior among Young Adolescents. *Applied Develop Sci* 13, 188-198 (2009).
13. Granic I, Lobel A, Engels RCME. The benefits of playing video games. *American Psychologist* 69, 66-78 (2014).