

# Enormity and Effects of Playing Online Video Games with a Violent Content amongst Adolescents

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## Abstract

**Background:** Video gaming is an evolving problem that many of the parents are facing but more importantly, it is affecting the young generation through its physical and mental consequences.

**Methods:** In this cross-sectional study, 75 teenagers were selected via random stratified sampling. Each participant was required to complete a survey that gathered data about their habits, attitudes, school performance and traits like hostility, empathy etc. on a 5-point Likert scale (1= "no violence" to 5= "extremely violent"). Video games included any games played on computer, video game consoles hand-held game devices or in video arcades.

**Results:** Out of a sample of 75 teens, 9 (12.0%) played non-violent or slightly violent games while 66 (88.0%) played violent games. Similarly, when the preferences of boys regarding the violent games were inquired, 6 (8%) boys preferred non-violent or slightly violent games while 69 (92%) preferred to play violent games.

**Conclusion:** Majority of adolescent boys prefer to play video games with violent contents. The duration of time spent on playing video games in holidays and weekends is exceedingly higher in boys who prefer to play violent games. The violence in video games was shown to be affecting the habits, attitudes and daily life of children. Parental preferences and academics were not found to be related to the individual preferences of children.

**Keywords:** Video games, Violent games, Adolescents, Aggression, Desensitization, Violence

## Introduction

Video games industry has become one of the largest industries, making around twenty billion dollars.<sup>1</sup> Playing video games has become one of the favourite adult past times in the current century, leading to a

number of social, behavioural, moral and psychological issues amongst the young generation.

The most common trend among teens nowadays is to play online games on LAN (Local Area Network) servers, compared to the past two decades when the sole video game play revolved around Wii Nintendo and older non-internet versions of PlayStation (PS). The games usually played involved Pac Man, Sonic Saga, Mario Brothers etc. that had a very low violent content compared to the present-day gaming trends that include Call of Duty, Counter Strike, Fortnite, Battleground, Mortal Kombat, Campzone 2, Resident Evil, Dota 2, FIFA etc.<sup>2</sup>

It has been observed that reality based games have led to reduction in psychological desensitization of the subjects. However when Atari dominated the market, it had very simple graphics that violent content was mostly abstract and rarely involved human characters.<sup>3</sup>

It has been observed that when subjects were exposed to violent media, the initial response was fear and anxiety.<sup>4</sup> On the contrary, when these violent stimuli are repeatedly presented in a positive emotional context, these initial distressing reactions were reduced.

A narrower, clearer definition of **desensitization** to violence is a reduction in emotion-related physiological reactivity to real violence.<sup>5</sup> It has been concluded that desensitized people might be less likely to notice aggressive events and have less negative attitudes towards violence.<sup>6,7</sup> Owing to this desensitizing effect of violent video games on psychology, there is also evidence that video games have been used for a variety of training missions, including desensitizing soldiers to violence and violent atmospheres.<sup>8</sup>

It has been reported that repeated violent choices usually result in a continuous cycle of reward.<sup>9</sup> Some researchers suggest that playing violent video games increases negative cognitions and behaviours.<sup>10</sup>

The objectives of this study are to determine the proportion of adolescent boys who play and prefer violent video games, to assess the levels of violence, parental supervision and also to compare the effects of violent games on their social, psychological and academic performance in adolescent boys.

### Materials And Methods

This cross-sectional study was carried out in from June 2015 to September 2016, in Rawalpindi. Our study population basically comprised of teen boys ranging between the ages of 10 and 19. The students were all boys that involved day schools and evening coaching academies. Permission was taken by the heads of all academic institutions before initiation of study. Using an anticipated proportion of 0.18, 95% confidence interval and 6% absolute precision, minimally required sample size according to WHO sample size calculator was calculated to be 75. We included 75 willing students through stratified random sampling. From each academic institution, students were selected randomly using the attendance sheets of those respective days of data collection as the sampling frame works.

After verbal informed consent, each participant was required to complete an anonymous survey that gathered descriptive data about his habits, attitudes, and knowledge about video games, as well as school performance and a measure his trait of hostility. The students were instructed that video games included any games played on computer, video game consoles (such as XBOX, PlayStation etc.), hand-held game devices (such as Gameboy), and/or in video arcades. Participants were asked to name their five favourite video games. For each named game, participants were asked to rate how violent each game is on a 5-point Likert scale (1=little or no violence, 2= slight violence, 3=average violence, 4=violence equal to social violence, 5=extreme violence). They were also asked the number of hours spent playing on weekdays and during holidays.

Parental imposed limits were also questioned and types of limits were asked as well. Participants were asked how often their parents put limits on the time they are allowed to play video games, and how often their parents check the ratings before allowing them to buy or rent video games. Responses were rated on a 5-point Likert scale (ranging from “always” to “never”). Participants were also asked whether their parents had ever kept them from getting a game because of its rating, and whether their parents knew what games they had. Participants were also asked to enlist their average grades and school performance.

Lastly, the participants were asked various qualitative questions regarding their point of view on the current safety of the society and what, in their view, were the chances of a person being assaulted with a weapon in his lifetime. They were inquired about how tolerant they generally were and what was their attitude in making friends or interacting socially. They were also asked how often they got into arguments at school and if they had ever harmed an animal or school property deliberately out of anger or satisfaction.

All the quantitative data was entered and analysed using Statistical package of Social Sciences version 22. Descriptive statistics were calculated for categorical and numerical variables while, to compare effects of violent and non-violent games on various social and psychological factors Fischer’s exact test was applied at 5% level of significance. On independent samples, t-test was applied at 5% level of significance to compare the numerical variables in violent and non-violent groups

### Results

A total of 75 boys were included in the study, having a mean age of 16.27 ( $\pm 1.49$ ) years, median and mode being 17 years. The eldest were 19 years old while the youngest were 10 years old. When inquired about the extent of violence in video games they played, 9 (12.0%) played non-violent or slightly violent games while 66 (88.0%) played violent games. Similarly, when the preferences of boys regarding the violent games were inquired, 6 (8%) boys preferred non-violent or slightly violent games while 69 (92%) preferred to play violent games. Preference of violent games is displayed in Figure I and Table I

When impact of playing violent games or preferring violent content in games on various aspects like academic performance were observed, no statistically significant difference was recorded in both groups, i-e violent and non-violent.

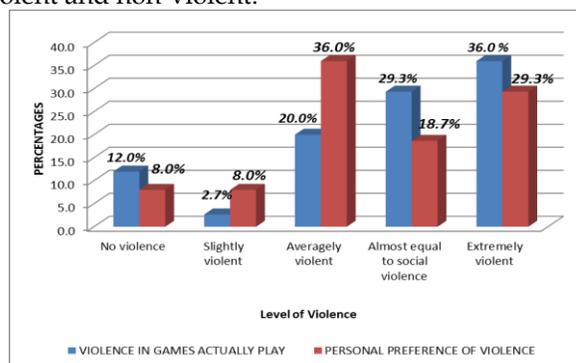


Figure I: Comparison of percentages of violence in games to personal preferences

Table I: Significance of differences between content of games and associated factors

FACTORS CONSIDERED		NATURE OF GAMES PLAYED			P-value
		VIOLENT (n=66)	NON-VIOLENT (n=9)	TOTAL (n=75)	
Parental involvement	Yes	26 (83.9%)	5 (16.1%)	31 (41.3%)	0.471
	No	40 (90.9%)	4 (9.1%)	44 (58.7%)	
Tolerance	Yes	48 (85.7%)	8 (14.3%)	56 (74.7%)	0.434
	No	18 (94.7%)	1 (5.3%)	19 (25.3%)	
Having large friends circle	Yes	46 (86.8%)	7 (13.2%)	53 (70.7%)	1.00
	No	20 (90.9%)	2 (9.1%)	22 (29.3%)	
Deliberate acts of violence performed	Yes	43 (93.5%)	3 (6.5%)	46 (61.3%)	0.081
	No	23 (79.3%)	6 (20.7%)	29 (38.6%)	
Academic performance	A	58 (92.1%)	5 (70.9%)	63 (84.0%)	-
	B	7 (63.6%)	4 (36.4%)	11 (14.7%)	
	D	1 (100%)	0 (00.0%)	1 (01.3%)	

Table II: Significance of differences between violence played and associated factors

Factors considered	VIOLENCE PLAYED		
	NON-VIOLENT	VIOLENT	P-VALUE
Age	16.33 (±0.866)	16.26 (±1.562)	0.33
Hours played during weekdays	1.11 (±1.054)	2.30 (±1.831)	0.05
Hours played on holidays	0.78 (±1.39)	4.24 (±2.87)	0.00
Hours spent on out-door activities	1.00 (±1.323)	0.65 (±1.544)	0.60

When parental supervision was observed, then the parents who did not supervise and those who supervised did not have much difference in their children’s playing habits. The difference is not statistically significant with a p-value of 0.7. The only statistically significant difference observed was in the hours of games played on holidays that were exceedingly more in boys who played violent games. (Table II)

## Discussion

The present study was planned to examine the effect violent video game content has on its players, both personally and socially. As anticipated, exposure to video game violence was associated with lower empathy and stronger proviolence attitudes. Over 85% of games contain violent content, and approximately half of these video games include serious violent actions.<sup>11</sup>

As of now, video games rated “E” (Everyone: Ages 6+) by the industry are still thought considerably violent by parents.<sup>12</sup> Parent-imposed limits have shown to be effective in reducing time with television.<sup>13</sup> When our

study population was asked about how often they were monitored, majority said that they usually had very few parental limits.

Active parental involvement, such as rules limiting media use and active mediation (both positive encouragement to watch “positive” media and discouragement of “negative” messages), can be effective in influencing children’s viewing, understanding, reactions to, and imitation of program content.<sup>14</sup> In our study, most of the time this involvement was concerned with the time limit rather than the actual game violence rating or type, which was alarming considering the fact that most parents are virtually unaware of what their child is doing on the computer. The participants in our study said that they were free to get whatever games they liked, and all their parents monitored them of was the time limit. Parental mediation is correlated with better academic performance and has been shown to increase beliefs in social norms (both positive and negative), and to decrease fear.<sup>15</sup>

Previous researches indicate that parents often do not know the content of their children’s favourite video games. Parents may also be less aware of the movie and video game content children have, particularly when there is easy access to a range of options through internet these days. Therefore, children may have inadvertent and unintended violence exposure via video games and movies.<sup>10</sup>

When we evaluated the usual timings, the teens spent on playing violent games on PC’s or their gaming consoles, we found an average of 2.3 hours played in average weekdays. This number was quite close to another research where it was found out that an average LAN gamer devotes each day about 2.6 hours to gaming. This means that the average gamer spends an evening, or a morning or an afternoon on his hobby, gaming. This amount of time is far more than found in earlier studies.<sup>16</sup> Another alarming finding was that the same number went up to 4.24 hours on an off-day for players of violent games. However, players of non-violent games had a far less playing time, during weekdays their average time was 1.11 hours and on holidays it further falls down to 0.78 hours.

Another reason related to this difference in figures could be the fact that the non-violent players have a pattern of outdoor activities. They spend almost 1 hour daily on some sort of outdoor physical activity, whereas the players of violent games spent nearly half that time (0.65 hours) and that too, as they told us, was for some house chores or necessary business.

Jansz and Martin found that players were highly motivated by social motives, followed by competition and interest.<sup>17</sup>

Moreover, teens generally find it easier to talk online these days, in communities where there are individuals who share their interests. Even though making friends is not a priority while gaming but it is far easier, as most of the children explained that merely starting a discussion about their gaming system can lead to conversations resulting in acquiring friends. Making friends is considered a side advantage of online gaming.

It has been seen that in children, exposure to violent games may undermine the development of emotion regulation skills. Impaired emotion regulation may lead to desensitization which increases the chances of development of aggressive or violent behaviour.<sup>18</sup> Our study participants were asked questions to evaluate their level of desensitization towards the social cues, like whether they got into arguments at home or school, what kind of friends circle they had at school, if they ever deliberately caused damage to a public property or harmed an animal. Our results showed that even though most of the students indicated they were tolerant and had a larger friends circle, yet 46 (61.3%) admitted to have performed some sort of harmful violent acts deliberately.

A couple of factors can be taken into consideration in this regard, such as the fact that the questionnaire was answered by the teens themselves which may have a chance of error as teens might have misjudged themselves. Moreover, most of the children were seen to have had a modest family background with a limited exposure to real life violence, which might have prevented them from displaying any intense act of violent behaviour, as was also seen by another study by Funk et. al.<sup>10</sup>

The most common form of violence is screen based media violence as they lead to increased pro violent attitudes and have resulted in alterations of cognitive processing.<sup>19</sup> The evolving realism in the gaming industry has played a major role in creating a real society-like virtual environment in a game. Repeated exposure to a stimulus of social violence such as killing other 'human targets' with a justifiable cause make the gamers less likely to react to a situation where something like this has actually happened.

When we asked our participants about how much they deem the society safe, 44 (58.7%) of the individual thought that there were <50% chances of meeting any weapon assault misfortune, which shows that weapon assault is not something that these students think

about seriously, since they see all this every day. Justifiable causes such as killing targets from the opposite forces to earn more points can make a person less empathic towards the idea of killing. Realism has changed gaming graphics to an extent that blood and gore are an essential part of a killing process in a game.

The only feat that video games could not achieve yet is reality. Most of the video games contain material that is impossible to achieve in real life, but the introduction of virtual glasses and 3D screens are solving that problem too. Some studies also reported that children and consequently teens try to imitate their favourite characters from the video games and try to act like them. According to a study, children explained that they tried to copy the wrestling moves of their favourite wrestler.<sup>10</sup>

According to a study, adolescents also explained that the reason they enjoyed playing games so much was the facts that you could do certain things in a game that you couldn't in real life. Like crashing a plane, a hundred times, or wrecking your car and then have it repaired again.<sup>20</sup> In their opinion, the games take you away from reality which is a good thing. We, therefore asked our participants a very basic question, that whether they would want their favourite games to become a reality? And surprisingly 58 (77.3%) answered with a yes. In their point of view, it will be fun to do things that seem impossible.

Apart from all the above-mentioned discussion, recent discoveries are leading to an interesting aspect of the effect video games have on its players. ADHD, a psychological syndrome related to reduced attention and concentration, is a very problematic condition in children. Researches conducted in this area now state that video games may actually be helpful in this condition to some extent. Such studies related video games to increased responsiveness and attentiveness in such children. The same is also being applied for children with autism.<sup>21</sup>

In other words, we can also conclude that video games may also be involved in keeping the participants centred in it, thus enhancing various strategic problem-solving skills in the player.

## **Conclusion**

Majority of adolescent boys prefer to play video games with violent contents. The duration of time spent on playing video games in holidays and weekends is exceedingly higher in boys who play violent games. The violence in video games was shown to be affecting the habits, attitudes and daily life of children. Such

boys also exhibit a lower level of empathy and exhibit pro violent behaviour, leading to arguments, fights, and property damage. Parental preferences and academics were not found to be related to the individual preferences of children.

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