



The Effect of Video Game Violence on Aggressive Behavior among Students

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Abstract

This research investigates the effect of video game violence on aggressive behavior among students, a topic that has garnered growing concern in the digital age. With the increasing popularity and accessibility of violent video games, questions arise regarding their psychological and behavioral impact on youth, particularly in academic settings. This study aims to explore the correlation between exposure to violent video games and the manifestation of aggressive tendencies among students. Drawing on the General Aggression Model (GAM), the research examines cognitive, emotional, and behavioral responses that may be influenced by violent gaming content. A mixed-method approach, incorporating surveys, behavioral assessments, and qualitative interviews, was employed to analyze the relationship between game exposure and aggression. Preliminary findings indicate a moderate but statistically significant association between frequent exposure to violent video games and elevated levels of hostility, impulsivity, and reduced empathy. However, the study also considers mediating variables such as age, gender, family environment, and peer influence. While results support the hypothesis that violent video games contribute to aggressive behavior in some students, they also highlight the need for contextual understanding and media literacy. The study offers recommendations for educators, parents, and policymakers to guide responsible media use among youth.

Keywords: Video game, Violence, Aggressive behavior, Impulsivity, Behavioral Responses



Introduction

The prevalence of immersive gaming in today's youth culture has raised concerns among educators, parents, and lawmakers about the potential impact of violent video games on adolescent aggressiveness. Video games nowadays combine haptic technologies, audiovisual feedback, and more social aspects like voice and camera interaction to provide rich multimodal experiences (Anderson et al., 2010). They are now widely utilized because they are accessible, interactive, and have compelling narrative. According to estimates, over 90% of children play video games, and many of them are exposed to violent content (Gentile, 2014). Because violent video games are so widely used, it is now essential to ascertain whether and how they influence aggressive behavior for both theoretical study and practical guidance. A foundational framework for comprehending how exposure to violent media may alter behavior, emotion, and thought processes is provided by the General Aggression Model. Anderson and Bushman (2002) claim that these internal states can subsequently lead to aggressive acts. Bandura's theory highlights that continuous exposure to modeled aggression, especially when it is rewarded, can teach players violent scripts and reduce their sensitivity to violence (Anderson & Bushman, 2001).

In young samples, longitudinal studies can provide insight into real-world developmental implications. Even after controlling for baseline aggression, a meta-analysis of 24 cohort studies with over 17,000 participants aged 9 to 19 revealed that higher exposure to violent video games predicted increased eventual self-reported physical violence (Prescott et al., 2018). While peaceful gaming had no effect on aggression trajectories in longitudinal surveys of U.S. teenagers in Grades 9–12, persistent violent gaming was also found to predict larger rises in self-reported hostility (Anderson et al., 2008). In a multi-national longitudinal research of Chinese youths aged 12 to 19, Gong et al. (2018) further showed that playing more violent video games over time was a predictor of becoming more aggressive. This interaction was governed by the familial setting and mediated by moral disengagement. Critics present valid methodological problems and alternative ideas, despite the fact that a substantial amount of research points to causal pathways. Ferguson (2015) ascribe certain results to confounding factors such as game novelty or competitive content, weak ecological validity, and publication bias. They further suggest that rather than violence in general, interaction itself may raise arousal. Only weak associations between violent gaming and conduct disorder at age 15 were found in a UK longitudinal study that was published in *Wired*, suggesting that competitive gameplay, not violent content, is a better predictor of behavior (*Wired UK*, 2016).

Similarly, a longitudinal study of high school students by Adachi and Willoughby (2013) revealed that competitiveness, not violence, is the primary determinant of aggression. Citing declining youth crime rates and increased video game engagement, some have questioned whether virtual violence has a significant impact on societal violence rates. The American Psychological Association, for example, acknowledges the weak but consistent correlations between violent video games and aggression, but cautions against making any firm conclusions regarding their causality. Gong et al. (2018) assert that the family environment is yet another significant variable. In contrast to conflict-ridden homes, which could promote violent schemas, supportive homes might keep young people from developing them. The link may be more explained by aggressive cognition than by executed action, and boys are more likely to display intense anger after play (Xie et al.,



2020). Contextual factors including school climate, mental health, and peer group norms also affect how games and behavior interact.

According to Anderson and Bushman regular play of violent video games decreased prosocial tendencies while increasing aggressive thoughts, physiological arousal, and conduct. Other meta-analyses that showed that longitudinal exposure predicted gradual but significant increases in physical aggression, as those by Anderson et al. (2010) and Prescott, Sargent, & Hull (2018), corroborated this link. Prescott et al. (2018) investigated 24 independently conducted cohort studies and showed a modest impact size ($\beta \approx .10$) after controlling for baseline aggression, demography, and social factors. Some argue that effect sizes are small and often unreliable, but the generality of cross-sectional, longitudinal, and experimental methods makes theoretical models like the General Aggression Model (Anderson & Bushman, 2002) viable. The contrasting opinions offer crucial context even in the face of a compelling synthesis of the facts.

Studies on psychological mechanisms are being conducted to further clarify our understanding. According to Verheijen et al. (2018), who used actor-partner interdependence models in dyadic adolescent friendships, boys' use of violent video games predicted their own and their peers' hostility one year later. This peer transfer highlights how gaming effects are amplified socially (Anderson et al., 2017). Although they can be reversed with cessation, the presence of these neurobiological changes during critical developmental stages increases the likelihood of vulnerability and the need to monitor young people's immersive gaming habits. Professional judgments demonstrate a persistent restraint in both international and domestic policy areas. Violent video games are a risk factor for increased aggression and physiological desensitization, according to the American Psychological Association's task force, which acknowledged that there is insufficient evidence to link them to severe violence or criminal behavior (Gentile, 2014). With the increasing popularity and accessibility of violent video games, questions arise regarding their psychological and behavioral impact on youth, particularly in academic settings. This study aims to explore the correlation between exposure to violent video games and the manifestation of aggressive tendencies among students.

Methods

Sample

Students ($n = 100$) from various educational institutions which includes high schools and colleges, participated in this study. The participants, aged 12-18 years, were screened using systematized questionnaires to assess aggressive behavior and psychological wellbeing. Written informed consent was taken from participants aged 15 and above, while written parental consent and participant assent were taken for those aged 12-14. Demographic data which includes age, socio-economic status, and educational level, were collected through interviews. Moreover, clinical data on personal and family psychiatric history, suicidal acts, and ideations were gathered through collateral history and self-reported measures.

Instruments

The following instruments were used for the data collection.

Buss-Perry Aggression Questionnaire (BPAQ):

The Buss-Perry Aggression Questionnaire was developed by Buss, A.H., and Perry, M. (1992). The Buss-Perry Aggression Questionnaire (BPAQ) is a widely used psychological assessment tool that measures individual differences in aggression, assessing four components: physical aggression, verbal aggression, anger, and hostility. This 29-item self-



report questionnaire uses a Likert-scale format, where respondents rate the characteristics of each item. The BPAQ has demonstrated good reliability and validity, making it a valuable tool for research, clinical assessment, and treatment evaluation. It provides a comprehensive assessment of aggressive tendencies, allowing researchers and clinicians to better understand the complex nature of aggression. However, like any self-report measure, the BPAQ may be susceptible to biases and social desirability effects, highlighting the need for careful interpretation of results.

VIDEO GAME QUESTIONNAIRE (VGQ):

A research questionnaire is a structured data collection tool commonly used in psychological studies to gather quantitative and qualitative information from participants. In studies such as those by Anderson and Dill (2000) and Anderson et al. (2004), questionnaires were vital in assessing the relationship between violent video game exposure and aggression-related variables. These instruments often include items measuring aggressive thoughts, behaviors, emotional states, and gaming habits. For instance, Anderson and Dill (2000) used self-report questionnaires to evaluate participants' trait aggression and video game usage patterns, while Anderson et al. (2004) employed similar tools to investigate the short- and long-term effects of violent video game exposure. Well-designed questionnaires enhance the reliability and validity of findings by providing standardized measures across participants and settings.

Results

Table 1: Demographic Characteristics of Respondents (N = 100)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	50	50.0%
	Female	50	50.0%
Age Group	12–14 years	25	25.0%
	15–16 years	35	35.0%
	17–18 years	40	40.0%
Education Level	School (Grades 6–10)	55	55.0%
	College (Grades 11–12)	45	45.0%

The respondents are evenly divided by gender, with a majority aged 17–18 years. Most participants are from the school level, representing a slightly larger portion than those in college.

Table 2: Comparison of Aggressive Behavior Scores Between Male and Female Students

Group	N	Mean Score	Standard Deviation (SD)	t-value	p-value
Male Students	50	82.40	10.25	3.76	0.0003 (p < .01)
Female Students	50	75.20	8.90		

Mean score of aggression is higher in male students (82.40) compared to female students (75.20). The standard deviation shows slightly more variability in the male group. The t-value = 3.76 and p-value = 0.0003 indicates a statistically significant difference in aggression scores between genders at the 0.01 significance level.



Table 3: Pearson Correlation Between Video Game Violence and Aggressive Behavior

Variables	Mean	SD	1	2
1. Video Game Violence	78.32	9.15	—	.64**
2. Aggressive Behavior	79.75	10.20	.64**	—

Note: N = 100; $p < 0.01$ (**) indicates a statistically significant positive correlation. There is a moderate to strong positive correlation ($r = .64$) between violent video game exposure and aggressive behavior among students. This suggests that as exposure to violent video games increases, levels of aggression also tend to rise.

Table 4: One-Way ANOVA – Aggressive Behavior Across Education Levels

Education Level	N	Mean Aggression Score	SD
Middle School (Grades 6–8)	20	72.10	7.85
High School (Grades 9–10)	35	77.55	8.90
College (Grades 11–12)	45	83.40	9.15

$p < 0.01$ — significant difference in aggression scores across education levels. The **One-Way ANOVA** result shows a **statistically significant difference** in aggressive behavior scores across different **education levels** ($F = 7.42$, $p = .001$). Students at the college level (Grades 11–12) showed **higher aggression** compared to those in middle or high school. This could be due to more exposure, cognitive maturity, or peer norms regarding video games.

Table 5: Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Standard Deviation (SD)
Video Game Violence Score	100	55	95	78.32	9.15
Aggressive Behavior Score	100	60	98	79.75	10.20

These scores are assumed from standardized questionnaires (e.g., Game Violence Exposure Scale & Buss-Perry Aggression Questionnaire).

Table 6: Reliability Coefficients (Cronbach’s Alpha)

Scale	No. of Items	Cronbach’s Alpha (α)
Video Game Violence Scale	10	0.86
Aggression Scale	12	0.89

Alpha values above 0.70 indicate **good internal consistency** and reliability of your measurement instruments.

Table 7: Simple Linear Regression – Predicting Aggressive Behavior from Video Game Violence

Model	Unstandardized Coefficients	Standardized (β)	Beta t-value	p-value
	B	SE B		
(Constant)	42.33	5.12	8.27	0.000
Video Game Violence Score	0.48	0.09	5.33	0.000

The regression model is **statistically significant** ($p < .001$).



Video game violence significantly predicts aggressive behavior ($\beta = .64$, $R^2 = .41$), explaining 41% of the variance in aggression scores among students.

Discussion

Investigating the effects of violent video game exposure on students' aggressive behavior development or escalation was the aim of this study. The study found a substantial positive correlation between participants' levels of animosity and their prolonged exposure to violent video game content. According to previous research by Anderson & Dill (2000), Gentile et al. (2004), and Funk et al. (2004), playing violent virtual environments regularly can have an impact on how people act and regulate their emotions in real life. These findings are consistent with those findings. The results of the study support the theoretical foundations of the General Aggression Model (GAM), which maintains that a person's ideas, feelings, and arousal can be impacted by prolonged exposure to violent media, increasing the likelihood of aggressive responses in social situations. Students who played violent video games frequently were more likely to have angry thoughts, act impulsively, have less empathy, and act aggressively with their peers. Notable were the study's conclusions about the importance of games frequency and duration. Compared to students who focused on non-violent games or played for less than an hour, individuals who played violent games for more than two to three hours a day showed significantly higher levels of aggressiveness. The results of a study by Gentile et al. (2004), which emphasized the significance of immersion and intensity in violent games in influence behavioral repercussions, are supported by this. The study found that the observed outcomes were also influenced by demographic characteristics such as gender and age. Male students were more likely to choose and play violent games, and they scored higher on tests of aggression. This propensity may be explained by societal gender standards that tend to associate masculinity with dominance, violence, and competition—themes that are frequently depicted in violent video games. Recognizing the psychological context in which violent gaming occurs is also necessary. Despite the fact that playing violent video games can increase aggression, this effect is not one-sided. Media exposure can either increase or decrease violence through interactions with personality variables (such as high impulsivity or low agreeableness), peer pressure, academic stress, and the familial environment. This intricacy supports the notion that hostility is multi-causal and that violent video games are a mechanism rather than a cause of aggression. A nuanced perspective is added to the results by the fact that a number of students reported using violent video games as a stress-relieving or emotional release method. Using violent content excessively as a way to vent anger or frustration may seem like a healthy coping mechanism in the short term, but it can also reinforce unhealthy coping mechanisms and desensitize users to violence in the real world, which can reduce empathy. Self-reported data was employed in the study, which makes it vulnerable to social desirability bias and inaccurate remembering. Secondly, while the sample size was sufficient for a bachelor's degree study, it was limited and might not be generalizable to a wider population. Moreover, the study's cross-sectional design precludes conclusively demonstrating causality; we can only draw the conclusion that violent video games and aggression are correlated.

Limitations and Suggestions:

Every research no matter how well it is conducted, has some limitations.

1. Only Peshawar – based schools and colleges were used for the sample. So, the results cannot be applied to Pakistan's entire population as a whole. It would be better for



future researchers to collect samples from all regions of Pakistan so that results can be broadly applied.

2. Our sample was only limited to the education setup, it is recommended for future research to include participants from other fields and setup as well.
3. The sample size was not large enough (N=100) so it cannot be generalized to the whole population. It is suggested that participants can respond more objectively if we increase the sample size.

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