***Do Video Games Bring Violence? A Technical Review of Evidence and Myths***

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***Abstract- The theory and fear that video games cause violence is a poor argument against kids playing video games. Studies that concluded video games do cause violence only recorded short-term aggression. Studies that did record short and long-term aggression found such an insignificant cause and effect, it would be considered non-existent. Official court cases could find no link between video games and aggression as well as no link between crime statistics and video game sales.***

***Index Terms – video games, violent video games, aggression, violence, crime, psychological, legal***

I. INTRODUCTION

Throughout the 21st century, video games have been steadily growing in popularity, raising public concern that video games can be a cause for aggression and violent behavior. Countless studies have gone back and forth on this topic, but no one could come to conclusive proof that video games do not or do cause violence. Studies mistake short-term aggression for signs of physical aggression; others find physical aggression but cannot be certain the cause was mostly from playing video games. Still today parents and scientists ask the question, do video games cause their players to be more violent towards others?

II. METHODS

The method of investigation for this research project is literature review. Only peer-reviewed published journal articles will be used as supporting evidence.

III. Do Video Games Bring Violence? A Technical Review of Evidence and Myths

Do video games lead to real-world violence? Current research suggests that video games do not cause real-world violence but instead cause an increase in aggression. This conclusion is supported by the distinction between aggression and actual violence in psychological studies [1], data between violent video game sales and violent crimes rates share no correlation [2], experts and legal officials reject the link of video games causing real-world violence [3].

A. *Differentiation*

Psychological studies that study violence must distinguish between aggression and actual violence or physical aggression. Aggression usually refers to increased irritability. Hostile thoughts, or competitive behavior, which can be seen shortly after testing in a controlled lab environment. However, short term aggression does not mean long term violence, so if the study wishes to be somewhat reliable, they must also study and record the long-term effects. One popular study that many believe to be conclusive proof that violent video games (VVG) cause physical aggression has four critics from another writer, Ferguson. The four critics given were:

(*i*) many studies that support such a link use measures of “nonserious aggression” (e.g., accessibility of aggression related words, aggression related feelings) that inflate effect-size estimates; (*ii*) many studies do not include important covariates as statistical controls and hence any observed effects may be spurious consequences of third variable relationships; (*iii*) there is a bias to publish studies supporting a VGV → aggression link as opposed to those reporting a null effect; and (*iv*) even if one accepts the existence of a VGV → aggression relationship, the estimated effect size typically reported is exceedingly weak [1].

The study will focus on (*i*) which indicates that studies mostly record “nonserious aggression”, which means they record aggressive words or irritated feelings to boost the data in their favor. And (*iv*) which expresses that even if VGV (video game violence) exists and happens, it would be too insignificant for actual changes in personality and behavior. The method to test long term aggression was to record physical aggression from VVG and at most three weeks later record another sign of physical aggression. They found that physical aggression did occur weeks later; however, they also found the effect size is only 1%, meaning video games only cause 1% of the recorded aggression, which for most researchers is too small to consider.

Another study [4] used sound and AI players to increase aggression towards the examinees, but while there was some increase in immediate violence, they did not investigate violent behavior or notice any while testing. The data found showed that even with short exposure to aggression, no examinees showed divisive proof they would harm someone after being exposed to a video game. In the end, the data concluded that their hypothesis, violent games affect individuals on autism spectrum disorder (ASD) differently than typically developing individuals. In fact, the data showed people with ASD showed no signs of aggression [4]. Both these studies prove that while video games can cause short term aggression, the chance for long term and physical aggression is unlikely. This shows that there is an important difference between aggression and physical aggression and must be considered for future tests on violence from video games.

B. *Divergence*

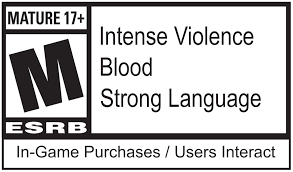
One of the strongest ways to prove whether video games cause violence is from nation and international crime data. Since the beginning of the 21st century, video game sales have only been on the rise. However, internation crime did not share the same trajectory. According to this study [2], “crime data compared to video game sales, implying higher video game play rates, shows a decrease in property and violent crime in areas where violent video game play is increased” [2]. According to the data, crime declined in areas where VVG sales increased, thus proving that the theory that video games will increase violent crimes is null.

Another study [5] wished to study why countries differ in their homicide and suicide rates. The study focused on three different factors: economics, guns, and video games. This report will be solely focused on the data between video games and violence. The study reported three main theories that can cause aggression from video games. The first theory is named Social Learning Theory. Bandura, the man who created the theory, suggests that violent behavior in video games can reinforced aggression in kids because kids learn from observation. Future studies have still not found any proof of this effect. The second theory is called the Selection Effect. This theory considers that the connection is the opposite, where VVG are chosen by already aggressive players, instead of VVG making their players aggressive. The last theory is the Spurious Correlation Theory. This theory suggests that any link found between VVG, and aggression is only coincidental. They support this by showing that instances of crime after VVG happen so rarely, they cannot conclude the cause is from the VVG. In fact, some studies using this theory found the same results as study [2] did, where crime data lowered as video games were played more.

C. *Consensus*

Legal experts and professional organizations have largely rejected the claim that

video games cause real-world violence. Like other studies already used in this report, study [3] concluded that “results from these confirmatory analyses provided evidence that adolescents' recent violent video game play is not a statistically or practically significant correlate of their aggressive behaviour as judged by carers” [3]. The study after stated that other studies that come to the opposite conclusion might have manipulated data to get the desired result, like Ferguson believed. While data shows that video games have no or little correlation to aggression, game companies have put warnings on their video game cases. The symbol that shows if a game depicts forms of violence and is meant for an older audience is shown below in Fig.1.



*Fig. 1. Video games legal rating under U.S. laws, shows content and age recommendation*

In 2011, a U.S. Supreme court case *Brown v. Entertainment Merchants Association* ruled that current research failed to prove a stable connection between VVG and harmful behavior. “The case details reflect the inextricability of materiality and experience in considering video games as a form of expression” and since their a form of expression, the court ruled that under the first amendment video games will be protected unless there is clear evidence of aggression, which no researcher has been able to prove [6].

IV. CONCLUSION

The theory that video games can cause real-world violence cause be arguably disproved by these three methods: distinction between aggression and actual violence in psychological studies, data between violent video game sales and violent crimes rates share no correlation, experts and legal officials reject the link of video games causing real-world violence.

The connection between VVG and real-world violence continues to be a debated topic, but the most reliable and current research suggests that the connection is either extremely weak or nonexistent. Psychological studies have shown that short-term aggression, such as irritability or competitive behavior, can increase briefly after gameplay; However, this cannot prove long-term physical violence. In fact, effect sizes reported in studies are often too small to have any practical significance, and many use limited or non-serious measures of aggression.

Large-scale population data further weakens the argument that video games lead to violence. As violent video game sales have only increased globally, violent crime rates have generally declined or remained stable, showing a clear divergence between the two. Additionally, theories like the selection effect and spurious correlation explain that individuals who are already aggressive may be drawn to violent games, rather than the games causing aggression. Lastly, most non-bias research and legal rulings have found no substantial evidence to support claims that VVG lead to criminal behavior. Putting all the conclusions together, this report strongly suggests that concerns over video games promoting violence are not supported by data and should be approached with greater scientific skepticism.

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