RELATIONSHIP BETWEEN VIOLENT VIDEO GAME PLAYING AND AGGRESSION IN ADOLESCENTS OF TWO SECONDARY SCHOOLS IN LUSAKA DISTRICT

By

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DECLARATION

I, Bupe Nakazwe Sumbwa, hereby declare that the work submitted in this dissertation is the result of my own independent investigation except were reference is made to published literature and where assistance is acknowledged. This work has not been presented before, either wholly or in part for any other academic research work and has been submitted as part of the requirement for the award of my Masters Degree certificate in Child and Adolescent Psychology.

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APPROVAL

This dissertation by Bupe Nakazwe-Sumbwa has been approved for the award of Master of Arts in Child and Adolescent Psychology by the University of Zambia.

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DEDICATION

This work is dedicated to my daughter and best friend Palisa Sumbwa. Hopefully this will in future be a model of encouragement for you to do even better.

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ABBREVIATION

ANOVA   Analysis of Variance

BPQ   Buss-Perry Questionnaire

FTQ   Free Time Questionnaire

VG   Video Games

VVGs   Violent Video Games

ABSTRACT

The current study investigated the impact of media violence, focusing on the relationship between violent video game playing and aggression in adolescents from two schools. The study was quantitative in nature and used a survey research design. A sample of 200 boys and girls were recruited from two schools; one private and the other public. Of the 200, each school had 50 boys and 50 girls. A 2×3×2 factorial plan consisting of two levels of gender (boy / girl), three types of aggression (physical / verbal / anger) and SES was used. In this study, school (private / public) was the main indicator of SES. All three measures used were self-reported; a Demographic Questionnaire which looked at the participant's gender, parents/guardians education and residential background, the Free Time Questionnaire on the other hand examined the participant's favorite games and amount of time spend playing and the Buss-Perry Aggression Mode Questionnaire measured the participant's aggression levels based on three types; physical, verbal and anger. The Statistical Package for Social Sciences (SPSS) software was used to analyse data. Descriptive analysis of game preference and time spent playing were conducted using means and frequencies. Comparisons across gender and schools representing different SES were conducted using an ANOVA, while Pearson's correlation explored the relationship between violent video game play and aggression. Further computations using a simple regression analysis was used to determine whether violent video games predicted aggression. Findings indicated that violence was present in the games played and that these games were played in the selected schools with boys reporting (5.1 times and 67% preference on average) more time playing and a higher preference for games with a violent content than the girls (1.8 time and 32% preference). Correlational analyses indicated significant positive relationship between aggression and playing violent video games. Regression analyses also indicated that violent video games predicted aggression. Boys scored higher on physical and anger aggression than the girls but scored less than the girls on verbal aggression. Overall, the results indicate a connection between exposure to violence in video games and its negative effects such as aggression on secondary school pupils. These results are significant because exposure to violent video games is mostly common in adolescents who are most likely to demonstrate these adverse effects. The findings suggest the need for intervention measures to be put in place to address this problem in schools.

Key words: *Violent video games, Aggression types and Adolescents.*

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CHAPTER ONE

INTRODUCTION

1.1   Background

As one of the forms of media, video games in relation to aggression have in these recent times taken centre stage and are of serious concern not only to researchers but to parents, teachers and the community at large. Video games have become at least one of every adolescent's favorite activity and in as much as video game playing may be entertaining, it is believed to be a source of aggression (Roberts et al, 1999). Sams and Truscott (2004) stipulated that other than aggression, side effects such as antisocial behaviour and maladaptive acts are a possibility and these tend to linger on into adulthood. They further add that, due to identity construction during the stage of adolescence, this age group is believed to be most at risk. To validate this, statistics, as recorded by the U.S. Bureau of Justice Statistic (2005) concluded that among the population at risk of experiencing violence through media, adolescents around the world today are most at risk and also report the highest number of aggression levels.

According to Funk (2004), Psychologists define aggression as any behavior that is intended to harm another person and it may take many forms such as verbal aggression, relational or indirect aggression and physical aggression. However, he adds that no clear line exists to separate 'violence' from aggression, or a line to understand findings on video game violence.

Zillman and Weaver (1999), suggest that psychologically, aggression is believed to show up as someone starts having plans that are intentional meant to cause harm on another person and this is mainly evident in open behaviour. It is reasons like these, among others, that researchers have dedicated their energies to conducting studies on the influence that violent video games may have on individuals' levels of aggression.

Other works go on as far as investigating the consequences that these games have on the environment. It is also important to note that responses that are violent or non-violent in nature do vary from one individual to the other and this is dependent on the amount of exposure, parental control, access to the games, etc. For instance, Price and Glad (2003) suggest that, while adolescents may respond differently to violence exposure, a common and quite obvious response

especially if witnessing is repetitive may lead to developing views such as the world being a negative and unsafe place and viewing others as hostile or threatening. Research also shown that an increase in hostile thoughts and aggressive behavior in adolescents toward others, as well as a decrease in empathy are among the common consequences of exposure to violent video games (DuRant et al., 1994; Sams & Truscott, 2004).

Like elsewhere around the globe, aggression among adolescents is real in the Zambian context as well which, in most cases than not, is expressed through bullying-a form of relational aggression (Mwanza, 2015). Anecdotal evidence by Mwanza showed that, at a time in her career as a guidance teacher, she came across a number of situations with pupils that where aggressive in nature. For instance, a pupil once reported to her that she was unhappy with some comments her classmates made on her. The pupil said she was referred to as "black Maria" and that hurt her. The above simply indicates that, in as much as aggression may be present in one individual, its consequences do affect others as well.

Studies conducted on video games have indicated that, these have become a popular means of entertainment around the world for a lot of age groups and not only teenagers (Molitor & Hirsch, 1994; Wilson, 1998). Television programs with violent characters are strongly believed by researchers to lead to increased aggression in the adolescent stage and are also most often than not continuous in adulthood as well. A number of measuring instruments that are dependent in nature such as self-report and projective tests, have been used in the observation of end products of violent video games and their content (e.g. fighting and killing, etc.), and age group of active players (e.g. teens). A large amount of evidence is in support of the verdict that violent video game play leads to an increase in aggression in active players (Rich et al., 1998). It is important to note that 4 in 5 adolescents own a cell phone (David et al., 2008) and video games are available on most of those cell phones if not all.

Aside from spending most of their time in/at school, adolescents of today are also spending a larger portion of their time consuming media. On average, adolescents in general are spending about forty hours per week on all forms of media and twenty hours of the forty hours per week is spent specifically on violent video games (Woodard, 2000). According to a nationally representative sample of Chinese adolescents, "95% of boys and 90% of girls tend to play/ played violent video games," and 69% of eight- to seventeen-year-olds reported to have been

playing violent games meant for mature players who were eighteen years and older (Roberts et al., 1999). This simply shows that it is indeed difficult to find a video game with no form of violence. Moreover, more than half of video games that are E-rated (for everyone) still contain violence (Sams & Truscott, 2004).

A number of findings suggest that effects seen in young children concerning violent video games are also evident and present among adolescents (Children Now, 2001). A study conducted by Weingarten (2003) examined the kind of outcomes different levels of violent video game content have on high school going students' heart rate and blood pressure. Participants were asked to play violent video games that is, game 1 and 2 (1= violent and 2=very violent). The study found that those that played game 2 had significantly higher heart rates than those that played game1. Like the heart rate results, the blood pressure results followed suit. This study supports evidence that indicates that, violent video games also have a bearing on ones physiological well being.

Apart from experimental conclusions, a number of several longitudinal studies have also verified the relationship that exists between these violent video games and aggression in adolescents and young adults (Gunderson, 2006; Rich et al., 1998). An example of a study is that of Anderson and Dill (2000), which examined the short and long term effects of exposure to violent video games. The findings showed that, participants that scored high on aggression in their adolescent stages also scored high in adulthood. Another study by Rhodes (2000) that used correlational methods sequentially to evaluate long-term exposure effects to violent video games, and a laboratory examination on short-term effects of violent video games. The first study utilized participants' history on video game exposure taking into consideration the many characteristic different measures such as: personality, aggression, bad temperament, unlawfulness so as to foresee self-reported aggressive behavior and unlawful behavior. The results showed that violent video game playing was definitely correlated with self-reported aggressive behavior and unlawful behavior. Nevertheless, the researchers did indicate that the relation was strongest for the males and also the characteristically aggressive persons. The above results are indications that not only are the aggressive tendencies present and increased in adolescent stages but last long enough and extend into adulthood.

A study conducted by (Hastings & Kelley, 1997) addressed the subject of causation, participants where made to play either a non-violent or violent video game. In this particular study,

participants played a game which allowed them to discipline another by distributing a blast of noise which was used to measure participants aggressive thoughts and behaviour. The findings were in support of the hypothesis that playing violent video games may lead aggressive thoughts and increases aggressive behavior. Specifically, those that played the violent video game had higher aggression levels both in their thoughts and behaviour than participants who played the non-violent game. In more likeness than not, participants who had played the violent video game distributed longer noxious noise blasts to adversaries than were participants who played the non-violent game. These results simply reinforce past descriptive and experimental research studies in signifying that exposure to video games that are violent in nature is associated with increased aggression and are also a determining factor.

A number of studies are in support of the hypothesis that playing violent video games can lead to aggressive behavior; however there are a few studies that do not support such a relation (Rich et al., 1998). For instance, Rhodes (2000) study of violent video game failed to show any prediction of an increase in aggression associated with playing video games that have different levels of violence. The findings showed changes in aggression levels that were contradictory with the study's expected predictions. With such findings, the researcher interpreted the results as confirmation that playing violent video games does lead to an increase in aggressive emotions but does not predict it. On the other hand, it is of importance to note that most of the studies that do not support the association between violent games and an increase in aggression have in many ways than not had problems supporting their hypothesis because of inconsistencies in their methodologies (Children Now, 2001). For example, in Rhodes (2000) study, there are two short comings in the methodology that affected the presentation and interpretation of results. Firstly, in the study's analysis, pre-existing group differences were not controlled for. Secondly, the instruments used were given in half therefore affecting the validity and reliability of the instruments. Therefore, with such inconsistencies, there is significant data that is in favor of a considerable association between playing video games that are violent in nature and their contribution to aggressive emotions, behaviors and thoughts.

This topic was seen fit for investigation due to the increase in the number of violent video games on the market and their popular demand by consumers with the majority of them being adolescents (Gunderson, 2006). The other reason was that of an increase in reported cases of

aggression and aggression types among adolescents of now (more technological time) as compared to those of then (Nabuzoka, 2003; Zillman and Weaver, 1999). In Zambia, through common observations, the two given reasons above are evident, even though there is very little awareness of this and even when the effects are well know by the parents, community at large and adolescents themselves, very little has been done to address and prevent both long term and short term effects. Other than that, lack of documented information in Zambia about the subject matter which makes it difficult for referencing was yet another reason for conducting this study.

It's reasons such as the ones above that the researcher of this study investigated whether other than ones environment, violent media; violent video games in particular are a contributing factor, especially since adolescents now unlike years back are more exposed to these violent video games due to advancement in technology and easy access to these games. Other than that, the researcher also wanted to find out if boys and girls differed in any way in terms of video game play and also if ones SES determined by school had any influence on play and preference of these violent games. Another reason for conduction this research was due to the lack of undocumented data / statistics about video games in Zambia in relation to levels of aggression which in may cases or not makes it difficult for referencing and citing to support studies like this one.

1.2   Statement of the Problem

Many research studies have acknowledged the increase in aggression levels among adolescents (Elander & Rutter, 1995) but most of these studies have focused much on variables such as bullying. An example of a comparative study by Nabuzoka (2003) was on bullying between Zambian and English students. This study was based on gender differences and it was reported that gender differences were mirrored at primary school level and not at secondary level for both English and Zambian pupils. In this particular study, boys unlike girls scored higher on physical aggression which is tantamount to boy's bullying than other behaviours that were more psychological in nature.

While a significant number of studies have documented the effects of violent video games on adolescents' aggressive behaviour elsewhere, few studies have focused on Africa (Udwin et al., 2000). Inspite of this increase, very little is know about Zambia with regard to aggression in

relation to violent video games and even though there is enough evidence (e.g. Anderson, 2000) that may indicate that its high time this chapter on video game play and aggressive tendencies closed, (Walsh, 2000), and that it is time to progress ahead of this, the impact and strength of this relationship in a Zambian context is not known that much. This is therefore the problem that the current research addressed.

1.3   Purpose of the Study

The main aim of this study was to investigate the impact of media violence, focusing on the relationship between violent video games and aggression in adolescents from two schools. To that end, the study also sought to determine if at all there was a relationship between and predictability of the three aggression types in relation to video game violence. Sex/gender and type of school was focused on as the independent variables so as to find out if boys and girls differed in preference and time spent playing the games. As for schools, one was private and the other public. The study sought to determine if the type of school affected ones influence on the choice of video games played.

1.4 Rationale

With all the knowledge of how serious the subject matter is, empirical evidence to date still remains inadequate in Zambia on violent video games in relation to three types of aggression which makes it hard for referencing. Such information therefore qualifies this study as significant for there is so little information on this subject matter in Zambia. Finding from the research can be of help to educators, other researchers and policy implementers in understanding the impact and strength of violent video games in relation to aggression among adolescents and in schools in the Zambian context and later come up with interventions that may help sensitize adolescents, the parents (be more mindful of age restrictions and content of games) and the community at large. The spread of this information is also important in that, in as much as violence in the games is not the only determinant of the aggression in adolescents, it however is one of the ways in which one may be come aggression and sensitization of this may lead to reduced use and also enabling adolescents to be more mindful of the game contents (violence) thus a step forward in the reduction of negative effects like aggression.

1.5   Objectives

1. To compare participants from a private school and a public school with regard to their exposure to violent video games and their levels of different types of aggression.
2. To examine gender differences that exists in participants of each school with regard to their preference and time spent playing violent video games.
3. To determine the relationship that exists between violent video game play and the three types of aggression; emotional, physical and verbal among participants.
4. To examine the extent to which playing violent video games can predict each of the three types of aggression in the participants from the two schools.

1.6   Hypotheses

The specific hypotheses for this study are as follows:

1.) There are differences expected between the boys' and girls' preference of games and time spent playing these games.
2.) There are differences expected between the participants from the two schools on aggression.
3.) Within each sample, participants with higher levels of exposure to violent video game playing will express the three types of aggression i.e. physical, verbal and emotion.
4.) Within each sample of students from both schools, a prediction of aggressive behaviour due to exposure to violent video games is expected.

1.7   Scope of the Study

After a successful completion of data collection from the two schools and consideration of the ethics, an analysis was run through SPSS using three statistical techniques; ANOVA, Correlation and Regression. An ANOVA was run so as to compare the sources of variance which were gender, SES and aggression. It is a fact that SES can be based on a number of indicators such as income, education level or even residential background. This study focused on school as a determinant. This was because one school was private and the other public thus school fees playing a major role in assuming the students ability to afford and access to video game devices.

Gender and SES were compared to determine if one being male or female and attending school at one of the school influenced their choice of games and time spent playing. Aggression was incorporated in a 2x3x2 fractional analysis to examine if the influence of gender and school on video games later manipulated the participants types of aggression. A Pearson correlation was used to determine if at all there was a relationship between video game play and aggression. Using data to identify relationships between the variables and later use these relationships to make predictions, a bivariate or simple linear regression was used. The study was conducted so as to enlighten and give insight on the negative effects that such games have on adolescents both long and short term.

1.8   Operational Definitions of Constructs

For purposes of this research, the following definitions where used:

1. **Verbal aggression** was defined as saying hurtful things to another.

2. **Anger** was defined as behavior that is meant to harm the target person but is enacted outside of the target person's view such as, for example, getting someone in trouble by telling lies about them and in most cases this is done behind their back.

3. **Physical aggression** was defined as an act that may involve pushing or something more serious like physical assaults. This form of aggression is present on both sides of the continuum that is; between verbal aggression and anger. (Woodard, 2000).

4. **Gender** The state of being male or female

5. **Aggression** is defined as any behavior that is intended to harm another person.

1.9   Theoretical Framework

1.9.1   The Observational Learning Theory and Imitating

Learning theories as conceptual frameworks show and explain how knowledge is obtained, used and maintained during the learning process (Bandura, 1997). Many factors such as cognition,

emotions, and the environment as well as what may have been experienced in the past all play a part in understanding or viewing of the world and this is acquired or changed into knowledge and skills which are later on retained (Greenfield et al., 1987). This shows the power of the mind to be able to produce what it is fed and in relation to violent video games; the observed violence is likely to be reproduced by the player in given circumstances also supporting the likelihood that increased aggression is indeed possible.

Researchers in the behaviorists' school of thought view learning as a part of conditioning and promote a system of rewards and targets in life (Irwin & Gross, 1995). Researchers who embrace the observational theory and imitation believe that behaviour whether positive or negative is learnt through observing a significant other and later on imitating that behaviour consciously or unconsciously (Gunderson, 2006). It is for this very reason that the theory was considered fit to use to explain the aim of this study.

According to this theory, the probability of an adolescent to acquire behavior they have observed is heightened if something/someone they look up to is presenting behavior they consider similar to or if it is attractive to them, then he/she will identify with the model, also in cases where the circumstance is seen as sensible, and the analysed act is trailed with consequences that are rewarded (Bandura, 1977). The observational learning theory helps to explain some of the short-term and long term effects of exposure to violent video games. In most instances, adolescents' aggressive behavior obtained through violent video games is reinforced by receiving even more games of a violent content (Johnson, Jackson & Gatto, 1995), for instance, an adolescent being rewarded by people in his/her collective environment (parents, family members, friends) all in the name of entertainment while overlooking the negative effects. During imitation and reinforcement, adolescents develop consistent types of manners (Bandura, 1977).

On the one hand, violent acts that the characters in these video games commit are in many times rewarded by way of increase in points added or other benefits. Thus behavior that is believed to be intended to hurt another (aggressive behaviour) is then built on recurring contact through continuous video game playing and the child is then more likely to employ in the behavior (Josephson, 1987). Research suggests adolescents identifying with violent video game characters engage in aggressive behavior more frequently than children who are not exposed to violent games (Kirsh, 2003). Numerous studies have investigated the cognitive and behavioral

effects of playing violent video games among adolescents and report its association with aggressive behavior (e.g. Orpinas & Frankowski, 2001; Rideout, Vandewater & Wartella, 2003).

It is a common norm among other researchers to argue that observational learning and imitation are conscious processes, but that is not the case and not entirely true. More current works both theoretical and empirical (Anderson, 1997) advocate that most times behaviors that are imitated are usually non-conscious, instant and prone to be short-lived. In the same way, learning by observation of schemas and intricate characters (for example, beliefs that may direct ones understands) may transpire without any knowledge, even without abrupt replication of another's act. Recurring viewing of behavior that is aggressive by an adolescent and if behaviour is reinforced then an increase in aggressive behavour is likely and such a one may integrate character that is aggressive into their repertoires of social play (DuRant, 1994).

Thus, based on the Observational Learning Theory and imitation (and consistent with previous research) video game violence exposure may be associated with and predictor variables such as aggression. Additionally, different types of aggression that is, physical, verbal and anger (which can affect internal states, appraisals, and decision making skills) may serve as a mediator between the exposure and outcomes (Anderson, 2004). In as much as the reviewed literature has show that aggression is a by product of violent video games as hypothesised by the current study, a gap exists in that non has documented existing differences between a private and public school with both sexes which the current study did.

CHAPTER TWO

LITERATURE REVIEW

2.1   Overview

This section reviews relevant literature on violent video games. It is focused on *the impact of media violence: video game play in adolescents in relation to aggression.* It outlines both the empirical and theoretical literature relevant to the present study.

2.2   Empirical Review

Acts of violence and abuse in video games is experienced or witnessed nearly every day more now than ever (Mwanza, 2015). Acts such as bullying in schools, aggravation at workplaces, arguments in the family and social injustice are just a few examples of the outcomes of exposure to violence (Bureau of Justice, 2005; Nabuzoka, 2003; Mwanza, 2015). As a result, adolescents tend to be affected physically and psychologically (Gentile et al., 2004). Weingarten (2003) states that we respond to daily violence with symptoms she calls 'common shock' and may include increased desensitization daring, distractibility, or grief (cited in Gunderson, 2006). One can only conclude that consequences are of an increased exposure to violence through the media affects the witness and those around him/her on the exterior and interior.

Exposure to video game violence and quantity of time spent playing is different from one adolescent to another. Empirical evidence shows that boys actively seek out and are exposed to greater amounts of violent video games than girls. For instance, compared with girls, boys are more likely to prefer violent characters (Anderson, 2004) of which such characters are mainly promoted toward boys (e.g. a cartoon know as Ben10) and tend to feature a great deal of violence. Some researchers have explained this preference for violent media in boys as a result of differences in biology and gender-role socialization (Anderson & Bushman, 2002). One may therefore argue that whatever the cause for this preference may be, it leaves boys more at risk for the negative effects of violent media exposure, such as aggression.

Research on aggression has been conducted for decades now (Parker & Asher, 1987), but even with all the evidence available, attention has been focused more on males and neglecting females and the gender differences that may exist (Parke & Slaby, 1983). To explain the above statement

(Robins, 1986) stipulates that not only was aggression considered to affect most males, video games too have been associated with males in most instances mainly because they have been considered as a male activity. One can actively argue that this is so because aggression is still mostly considered from the physical point of view.

The story is not any different for Zambians as they have also become victims and witnesses to more severe violent crimes, such as bullying assault, burglary, and homicide (Mwanza, 2015; David et al., 2008; Nabuzoka, 2003). According to the Bureau of Justice (2005), rates of violent crime in countries like the U.S. have decreased in recent years. However, adolescents and young adults aged 12 to 24 continue to experience the highest rates of violence. Other studies suggest that while adolescent and young adult males are the most frequent victims of violence (except physical and verbal violence), a statistical trend in the past few years is closing this gender gap, indicating that all adolescents are at high risk of experiencing violence (United States Department of Justice, 2005). With this said, it shows that males tend to be more violent as they tend to expose themselves to violence more than females do. Interestingly, females like males are also spending more time playing video games just like the male and the scale seems to be almost on the same level.

2.2.1 Video Games

Most studies conducted on violent television and movies, video games, and music (e.g. Walsh, 2000) reveal obvious evidence that media violence increases the likelihood of aggressive and violent behavior in both immediate and long-term contexts. Media exposure increases the chances of one being aggressive both physically and verbally, one having aggressive thoughts, and aggressive emotions. This has been true for most of the studies conducted on media violence in the West but this can not be said to be true for non-Western counties, especially on video games.

Most longitudinal studies provide converging evidence linking frequent exposure to violent video games in childhood with aggression later in life, including physical assaults and spouse abuse. For instance, a study conducted by Donnerstein and Berkowitz (1981) confirmed that a combination of violent portrayals with physical stimulation is particularly potent at stimulating male viewers to be more physically assaultive toward females who have provoked them. In this

experimental study, adolescent male students were recruited and asked to play either violent video games or neutral/non-violent games. Later, they were given an opportunity to react against females who had angered them earlier by giving her electric shocks. The boys who had played violent video games punished the girls more intensely than did their counterparts who had played either the neutral game or the non-violent game (Donnerstein and Berkowitz 1981, cited in Anderson, 2004). Thus a common response to media violence being aggression as a whole, and boys being more affected than girls, even though this can not be concluded as so since girls do record higher aggression verbally also.

2.2.2   Video Game Content

Research evidence has frequently shown that adolescents' favourite video games often contain violence (Children Now, 2001). In a study conducted by Bolton et al. (2000), it was reported that of the 150 top UK video games that were evaluated, only twelve of them had a non-violent content. Adding on, Eron & Huesmann (1987) also found that as much as 92% of adolescents played games that contained violence designed to cause harm or loss to another person. It is significant to say that incidence of aggressive behavior among school going students (secondary) in the 21st century in the UK has been on the rise (Funk, 1995; David et al., 2008). It therefore can not be disputed that violent video games are more popular than non-violent ones among adolescents which explains the increase in levels of different types of aggression.

Studies indicate that approximately 55-89% of popular video games contain violence (Children Now, 2001; Walsh, 1999). A study of high school students, 76% of boys and 64% of girls reported that their preferred video games contain violence (Calvert & Tan, 1994). Such preferences in situations where someone is faced with violence, he/she is most likely to respond with violence (Bushman, 1998). One reason for such would be because most heros portray that violence can be faced with violence as long as it is for a good cause even though in the actual sense violence is violence whether it's for a good cause or not.

2.2.3   Violent Video Games' Influence on Adolescents

In the past, research has exposed unfailing connection between violent video games and increased levels of aggression. A study by Goodman, Renfrew and Mullick (2000) reported a large relationship between gains on exposure to violent video game and records of aggressive

behaviour, and found that this was full-bodied to numerical power of other predictors, e.g. personality which was aggressive and sex (Anderson & Dill, 2000). To support such findings, Anderson at el: (2004) conducted a correlational study which compared Africa American grade 12 males and females adolescents on both violent and non-violent video game play. The researchers reported that even after controlling for variables such as gender and aggressiveness, violent video game playing still predicted aggression among adolescents. It is without much argument that violence in video games has an effect in adolescent's behaviour regardless of personality, ethnicity and even residential background.

Six cross-cultural longitudinal studies in the past that were conducted in Asia, Europe and United States of America have examined the relation between video game playing habits and real-world aggressive behavior. Across the six studies, the ages of participants ranged from 15 to 17 years. In five of the studies Goodman, (1997) recorded dependable evidence which showed positive correlations between aggression and video game playing while the other one proved the opposite. From such findings it is accurate to say that violent video games are distinctively associated with increased aggression. And since most studies have been conducted in the Western culture, such cross-cultural studies are important so as to rule out the biasness of generalization of results across cultures.

Longitudinal studies have also been carried out concerning violent video games in relation to aggression. An example of such a study is one reported by Anderson and Eubanks (2003). In this study, Japanese eighth and ninth graders were measured at two separate points for a period of 5 to 6 months. What was measured in the study was generally video-game exposure rather than exposure to violent video games. After controlling for earlier violent acts, a significant positive association was found on the amount of exposure to video games with later levels of violent physical behavior. Even after conducting of research on the same people for a period on time, it was seen that aggression recorded as a result of violent video games was still present. This finding shows that indeed the effects can be both short term and long term.

On the one hand, Goodman, Meltzer and Bailey (1998), argued in their study on anger arousal with Australian male adults found that anger extensively moderated the effects of video game violence on aggression. The findings showed that the contestants who were filled with anger were more affected by violent video games than those who were not angry. Equally, another

study on the moderating effects of gender, age, sex and race as determining variables on a South African sample, discovered that game violence foresees aggressive behavior in adolescents in both long and short term (Orpinas & Frankowski, 2001). Apparently, the study also reported that not even age can really reduce the effects of exposure to violent games. This shows that even when one is too young to understand the harm they can cause effects just as bad as one who's fully aware. And where gender differences were concerned combined with too much gaming, in spite of video game content, it was found that boys had an increase in physical aggression (Udwin, 2000).

It is important to also keep in mind the amount of time that adolescents are spending playing the video games. Researchers' believed that adolescents are spending an increasingly large amount of time playing video games of which a large portion of it contains violence. And because adolescents playing these games are active participants rather than observers, they tend to be at increased risk of becoming aggressive (Anderson et al., 2004). Most video game studies have found and concluded that the violent games tend to increase adolescents aggressive behaviour. A study on physical aggression in America by Irwin and Gross (1995) found that adolescents who played the violent video games were more physically aggressive towards their peers. This was after one group of the participants were subjected to a violent video game and the other not with the view to assess physical aggression. It seems that time also happens to be a factor in increases of aggression. Suggestions point out that the more time one is exposed to that kind of violence the more aggressive one is but this can only be true in cases where other variables such as environment and personality are controlled for (Gifford, 2004).

Correlation between time spent playing violent video games and aggression has been measured by a number of survey studies. For instance, Anderson and Carnage (2004) conducted a study with college students who self-reported their past acts of aggressive behaviour. This particular study used a combination of measures of latest information on exposure to violent video games and then correlated it with the past acts of aggression they reported such as, intimidating other students or even participating in mob fights. The findings indicated a significant relationship between violent video game play and aggression as a whole. When other variables were controlled for such as gender and age, there was a decrease in the size of the association. This simply means that, while an association that is significant may be present between ones past

violent acts and their recent participation in violent game, it could be possible that some of the reflect could be from other variables unknown. Similar results were found in a study like the one below and it can be concluded that indeed, violent video games do contribute to children's physical aggression. For example, in a similar study by (Anderson & Huesman, 2003) conducted with eleventh and twelfth graders on time playing violent video games and their involvement in physical fights, a significant correlation was obtained.

A study by Anderson, (1997) examined the effects of violent video games on aggressive thoughts, emotions, and physiological arousal. He had participants play a violent video game or engage in movements similar to those of players in the game. Later on, participants listed their opinion to evaluate aggressive cognitions. For those who had played the game, significantly more aggressive thoughts were generated than those who had simply copied its movements. From the above, a direct connection can be seen between violent video games and aggression not only in actions and emotions but in thoughts as well. Some studies have also reported comparable consequences by using other different ways and forms to review aggressive thoughts, like reading aggressive and non-aggressive words (Buchanan et al., 2002).

Furthermore Gentile at el. (2004) conducted a study in the United States (US) on the effects of violent video games on two variable outcomes: prosocial behaviour, and physiological arousal. Results showed that significant effects of violent video games on each of these two variables were present. With such evidence in sight, it is undeniable to say that most studies conducted on violent video games have focused on adolescents in cultures different from the current study. Culture in this case could make a difference in that the effects of these games may not be so profound in a collectivist culture in comparison to individualistic ones mainly because of the different norms and values the two hold. For instance, collectivists are more leaned towards 'togetherness' while individualists are more of 'the self' and because of such values, aggressive acts even though present may not to a larger extent be 'let out' on another as may be the case for the individualists. Therefore, there is need for further studies to set up the guide of relationship between violent video games and the diverse proportions of aggression in order to gain better understanding of this area of study (David et al., 2008; Lanctot & LeBlanc, 2003).

2.2.4   Summary of Empirical Review of Related Literature.

As shown by review of the empirical research, exposure to video game violence has a negative impact and statistically significant association with adolescents' levels of aggression. Most of the findings are by and large consistent across media type and different research techniques. The experimental research evidently shows that exposure to violent video games increases the likelihood that a child will behave and think aggressively in the short run. As for cross-sectional surveys, they, time and again point to the actuality that more frequently adolescents are exposed to violence through video games; thus the likelihood that they will behave aggressively and have aggressive thoughts. Consistency is also evident among the longitudinal research studies. These show that exposure to video game violence when one is a child is a predictor of subsequent aggression at a time that someone becomes an adolescent and young adult even when many other possible factors are controlled for. Based on evidence it is also believed that regular contact to these violent games in late adolescence and early adulthood brings into being related raises in aggression and violence in later years. Even though the effect sizes may be considered to be in the series of small to medium, these are just as impactful and a public-health hazard (Bushman & Huesmann, 2001).

2.3   Theoretical Explanation

Worldwide, practical evidence of the effects that media violence has on psychological processes has been accepted ever since the first report of Surgeon General of the United States (Anderson & Bushman, 2002b). Researchers from disciplines like psychology have not only developed but tested and refined models that are hypothetical in nature to better account for this kind of violence (Huesmann, 1997). The developed theories are to a larger extent accepted because not only do they explain increases in aggression and behaviour that is violent due to media violence exposure but also suggest a whole lot of different factors that may moderate or aggravate the outcome (Anderson & Bushman, 2002b).

According to Berkowitz (1984), these models fall under the social-cognitive, information processing models. The focus of these models is based on the ways in which people learn, how they think, became aware / conscious of, and come to act in certain ways because of interactions they make with their social world, a world that involves observation of and participation in real

social interactions (e.g., with parents, peers), as well as fictional social interactions (e.g., various forms of media).

Structures of these theories bring about the importance of differentiating between relatively immediate (or short-term) and delayed (or long-term) effects of video games both violent and non-violent. Generally, conclusions have been that in as much as some practices may have a component to both effects, others are only an attributed to one or the other. Learning through observation and imitation, arousal and priming, are considered as some of the causes of short-term effects whereas learning through observation, an unaware schematic processes that are aggressive, and emotional training are believed to bring about long-term effects (Bandura, 1973).

The Observation Learning Theory and Imitation was the theory used to understand the negative effects that violent video games have on adolescents' behaviour, emotions and thought both long term and short term.

What is learnt from the Observation Theory and Imitation is that, a child's motor and social skills at a very early age are learnt mostly through observing others and later imitating such acts (Bandura, Ross & Ross, 1961). This mechanism is not only true in childhood but even as maturity takes place. In maturity, behaviours tend to become abstract especially when someone finds him/herself in a situation that is thought of as suitable or constructive. From this, ones viewpoint and mind-set are made up mainly from presumptions made from observation around them (Huston, 1992). Hypothetically, it can be said that adolescents do indeed learn from whomever they observe such as their parents, other family members, characters from video games, or even their friends and because of this many researchers, based on findings, have come to accept that learning through observation adds to the effects of violent media on aggressive behavior both in the short and long-term. And in as much as the learning may be unintentional (Gentile & Walsh, 2002) it still occurs without ones awareness. For the above reasons, the theory was used to explain and understand the study.

1.3.1 Aggression in Behaviors, Emotions and Thoughts

As mentioned above, violent video game play among adolescents has become of serious concern to researchers. Achenbach (1991), stresses that much of the concern about these violent video

games is the fear over the kind of behaviors these adolescents learn because of exposure to the games. Another concern is the increased numbers recorded and reported on aggressive behavior both short term and long term (Caplan, 1985). Christerson and Roberts (1998), stipulate that evidence of experimental studies have shown that players of these violent games are affected directly and this is seen through their behaviour which is aggressive. To get these results, these kinds of studies expose targets to violent games for some time just before aggression is measured.

Violent video game play also tends to increase aggressive feelings in adolescents. For instance, a case where someone plays a violent game, they are likely to give reports of anxiety and hostility (Bartholow & Anderson, 2002). Development of hostility and aggressive personalities are also reported in most pragmatic studies indicating that playing violent video games can lead to such development (Children Now, 2001).

Other than an increase in aggressive feelings, increased aggressive thoughts as a result of violent video game play have also been reported (Calvert & Tan, 1994). Most often than not, when people play these violent games, a register of aggressive thoughts is evident and infer certain situations in a hostile manner. In fact, as an attribution bias, adolescents exposed to violent video games do infer a lot of different situations in an aggressive way (Anderson & Dill, 2000). The above simply illustrates that ones feelings and thoughts after witnessing an act that is violent in nature from a game are in sync with each other thus behaving aggressively in situations perceived as hostile therefore, not only affecting the player but others around them.

2.3.2   Physiological Stimulation

Anderson et al. (2004) indicated that effects that violent video games have on adolescents do not only manifest in feelings, behaviors and thoughts but physiologically as well. Changes in the body take place as a result of exposure to violent games: for instance, one's heart rate may increase and in the event that an adolescent is provoked by another he/she may interpret a situation of mild impact to an unconnected event and making that particular adolescent act more aggressively due to the arousal caused by the violent video game in a situation where he or she normally might not act out.

2.3.4 Short-Term Effects

After playing violent video games, there are short-term changes that occur in adolescent's irritant levels, behaviours, emotions and thoughts and these are accounted for by three processes: already on hand aggression behaviors, cognitions and emotional reactions such as anger exist in the priming process; another process is that of mimicking the aggressive characters that are in the game; and in most cases the observation of violence stimulates physiological arousal.

Research conducted by Anderson and Bushman (2002) suggests that, in addition to holding numerous behavioral scripts, other than being a hub for behavioral scripts, human memory as we know it psychologically, does have an associative network of neurons. Therefore, if an adolescent is exposed to a stimulus his or her concepts in memory are activated. This process is what is called priming and this process takes place without the person being aware of it. And because of this activation an adolescent is likely to behave, think and feel more aggressive after playing a violent video game.

According to (Brown et al., 1999) the trend to mimic / copy actions of others is quiet common amongst adolescents. Adolescents have an inborn predisposition to observe and later mimic a particular behaviour. Consequences of this predisposition among adolescents when it comes to aggressive acts that they observe whether directly or indirectly (such as through media), are that they are more likely to copy the aggressive behaviors right after viewing them and this tends to increase more especially when an adolescent identifies with the character. This is most likely when the adolescent feels strongly that they are similar with or even attracted to that particular character (Walsh, 2000).

2.3.5 Long-Term Effects

Other than the short-term changes, long-term changes in ones body also occur. Mimicry is a short term process which involves a person copying another's actions. In contrast, observational learning is the process through which behavior observed by someone is encoded in their mind. Meanwhile in the mimicking process (short-term) all a child (adolescent) needs is exposure to a particular behavior for that child to imitate the action and this differs from long-term observational learning which requires frequent exposure (Udwin, 2000). Roe (1984) adds that this makes observational learning a powerful expansion of mimicry mainly because it brings into

being long lasting changes in the persons behaviour, emotions and thoughts. For example, when an adolescent frequents his/her violent video game play for days at a time, he/she is more likely to attribute hostile actions to others and such a change may lead one to be aggressive in the process. In the same way, frequent viewing of aggressive characters and actions in violent video games can make an adolescent develop beliefs that aggression is normal and appropriate (Smith & Boyson, 2002).

It is however very important to note that there are many reasons that influence the degree to which observational learning can affect adolescents (Oliver, 2000). Factors such as the attention the adolescent pays to the behaviour being observed will impact the likelihood of that particular child learning the behaviour. If the observed behaviour is believed to be appropriate the chances that the child will hold them to mind are high. Also if the adolescent is able to identify with the characters and believes that the behaviour learnt is positive then that behaviour once embedded in that child may prove difficult to change (Rich et al., 1998).

It is also true that violent video games can reinforce certain behaviors for the adolescents who take part in these games by way of conditioning them directly to behave in more violent ways (Nathanson & Cantor, 2000). Most times than not, the player is rewarded with an increased score, or other positive benefits such as going on to the next level for performing aggressive acts like causing harm to other characters. As a result, the player then tends to associate rewards with behaving aggressively simply suggesting that it's more likely that in the future he or she will act aggressively with the expectation of receiving the conditioned reward such as approval from other peers or even fear in others (Pine & Cohen, 2002).

Molitor and Hirsch (1994) reported that recurring contact to violent video games also tends to cause the player (adolescent) to become less affected by the violent acts portrayed meaning that behaviors observed and carried out by the player that may be disconcerting at first (such as killing another character) start to seem more and more ordinary after the frequent exposure. He or she may no longer be bothered by such actions and his/her physiological changes become blunted and may no longer occur as a phenomenon referred to as 'desensitization'.

2.3.6 Moderators: Individual Characteristics

Moses (1999), assets that one of the most important characteristics that moderate just how much effect violent video games may have on an adolescent player is that particular person's age. As mentioned above, adolescents are above all at risk for experiencing the effects created through exposure to violent video games. An adolescent's growth cognitively, personality wise, emotionally (maturity) and neurologically are not over and done with at that particular stage in their lives; thus, they are more susceptible to changing their development in terms of feelings, characters, attitude, behaviors, and traits all as a result of exposure to these violent video games (Nathanson & Cantor, 2000). Identity at the adolescent stage is one of the central issues thus whatever seems attractive and familiar can easily be copied. Therefore, supervision is cardinal at this stage.

Lianekhammy (2014) points out that, how aggressive an individual is naturally is yet another key individual characteristic mostly referred to as trait aggressiveness. Such people especially those who may report to have higher trait aggressiveness are more aggressive behavior-wise particularly in instances where one has being exposed to violent media (for example, video game violence) than those who are low in trait aggressiveness. Klein (1993) also suggests that the likelihood of an increase in trait aggressiveness is believed to be associated with increased exposure to media violence, thus, increasing the likelihood of aggressive acts. On the other hand, these effects are not limited to one direction. As the "downward spiral" model of aggression and media effects stipulates, young people who tend to be more aggressive seek out more aggressive media, which in turn make these children more aggressive; therefore creating a self-reinforcing cycle (McClosky & Lichter, 2003). It can also be argued that despite having the necessary supervision and parental control, some teenagers are just naturally aggressive. It is in their nature and violent video games may just be a trigger and not necessarily a determining factor. And it is for this reason that most of them resort to games that are violent as a coping mechanism.

Another moderating individual characteristic is the gender of the player. An adolescent's gender indicates just how much that person may be influenced by a violent video game. However, inconsistencies do exist among findings on gender differences concerning aggression after playing violent video games (Orpinas & Frankowski, 2001). On one hand, some studies show no gender differences in violent video game effects, while on the one hand; males are reported to

exhibit greater quantities of aggression after playing violent games than do females. Differences in the instruments used to measure aggression, different cultures and confounding gender with exposure to violent video games may be some of the reasons of such inconsistencies (Gunderson, (2006). In as much as it is argued that boys may be naturally aggressive and thus tend to seek more violent acts unlike girls, it is not entirely true because then aggression was considered physically and neglecting other types like verbal and anger of which girls score higher in verbal aggression unlike the boys. And in the case of video games, studies have established that girls do play just as much as boys do.

2.3.7 Moderators: Violent Video Games Characteristics

Some of the characteristics of violent games may cause adolescents to pay more attention to the game thus being affected more by the content. And because violent games are in most cases than not action-packed, such form of characteristics are said to increase a player's attention (Goodman et al., 2000). Other than that, the violence that is portrayed in these violent video games are justified thus adolescents are likely to be more affected (Evans & Rey, 2001), if the violence is glamorized, if the game fosters identification with characters who are aggressive, or if the game is professed as more realistic (Funk et al., 2002). The manner in which this violence is shown does not in any way suggest that it is wrong even when the punisher is the hero of the game. One can not disagree that violence still remains violence even when meant to acquire something noble.

Little research to date has examined how cultural, environmental, and situational variables (e.g., place, presence of co-viewers) moderate the impact of media violence (Walsh, 2000). However, the theories and the data already reviewed suggest that such social factors might moderate the effect if they alter the chances that the child will identify with aggressive characters, alter the child's perception of the scene's reality, alter the chances that the child will watch violence, or alter the chances that the child will carry out aggressive behaviors learned from watching the violence (Swenson et al., 2005). Any of these factors might be influenced by culture, neighborhood/environment, or family. See below.

2.3.8　Cultural Influence

Aside the studies carried out in the United States, many studies conducted in other countries on media violence do exist although a few have examined media violence effects in non-Western cultures. Results recorded in Western countries have in most cases been the same but with significant exceptions. For example, Huesmann and Eron (1986) reported that there was no association between violent video game play and aggressive behaviour among Israeli children who were brought up on a group home, but a moderate to strong relationship among Israeli children raised in a suburb was found. The explanation for such recordings may be that cultural surroundings sanctions that strongly go against violence within the group diminish the likelihood of any aggressive behaviors learned from media violence. This could also explain the effects found in the 1970s and 1980s females in the U.S who showed stronger effects unlike those that grew up in the 1950s and 1960. However, the full societal and cultural effects are not well understood due to lack of research in non-Western countries and inconsistencies found in research conducted in Western countries. For example, German females who had experienced social disorder at the end of Communism as teenagers were studied for 15- years and based on ground work domino, a concluding report given by Huesmann and Moise-Titus (1999) suggested that less aggressive and the more successful young adults were those that reported less aggression and watched less violence while the opposite is also true. One reason for such differences in cultures may be as a result of the different teachings. While individuality and independence is promoted and encouraged in Western cultures, togetherness and dependency is the norm in collectivist's cultures.

2.3.9　Neighborhood and SES Influence

Comstock and Paik (1991), stipulate that in most cases than not, children from high-SES on average tend to play more video games and video game violence than low-SES children. However, Huesmann et al. (2003) adds that the SES link to video game play habits does not account for the overall involvement between aggression and video game violence among adolescents and the opposite is also true. Simply meaning that, the consequences of violent video games on aggression shows in actual fact the same on low- and high-SES children. However,

Comstock and Paik (1991), suggest that if in high dose the violence given to low-SES children may yet be another risk factor for adulthood violence in this population.

2.3.10   Parental Influence

Theoretically, parents have a role to play on what kind of games their children play and the amount of time they spend playing, thus it is important that parents monitor them because media content have an effect on adolescents, mainly on their stance, way of life and behaviour. At times they tend to discuss what they see on media mediums with others such as their parents and based on the responses given by their parents, they may shape their world by those interactions. For example, according to Nathanson (1999), if parents discuss just how inappropriate violence observed on media vices is or restrict the access to such, lower aggressive behaviour is observed unlike those children whose parents do don't discuss less still restrict the access of violence exposure. This confirms just how important a parent voice is when involved in their children's activities.

Others studies Huesmann et al. (2003) indicate that a parents personality or aggressiveness may either increase or decrease effects of exposure to violence. Simply put, parental control on violent video game use and the actions enforced when their children use such games is more effective in explaining the effects of observing violence than simply basing explanations of who the parents are. So it is about active involvement as a way of supervision.

With such high levels of exposure to violent content in games, it is imperative to understand the impact that such content can have on adolescents and from the above literature one cannot doubt how powerful and complex violent video games are. This is as true for Africa and Zambia in particular as it is for other parts of our converged, technology-driven world (David et al., 2008). Therefore, with an increased awareness of the unpleasant effects of media violence, video game violence inclusive, it becomes important to come up with interventions such as clubs so as to sensitize the students the risks that violent games have and who is most at risk. Slater and colleagues (2003, as cited in Gunderson, 2006) identify adolescents as the most at risk for the negative effects of video game violence and label these as "having aggressive tendencies, and actively seek out violent media".

Summary of the Chapter

The current chapter focused on SES and gender as its main variables. The purpose of outlining other variables such as aggression in behaviors, emotions and thoughts, physiological stimulation, short -term effects, long – term effects, parental control, residential background, culture, etc; was to give a clear picture of how adolescent's learn through observation and later on imitate the actions. The above presentations have also shown the effects both long term and short term that come afterwards. In addition, the studies above pave way for future studies on various interventions. An example of one is that of parents being involved with their children during and after exposure to violence and also restrictions on access to media violence; video game violence inclusive. Changing presentations of violence so as to reduce the characteristics that increase observational learning and imitation effects is yet another preventive measure. And for such interventions to work, research in the future should identify with clarity moderating factors that are most important. In as much as there is enough evidence of numerous moderating factors, practicality, no existing evidence suggests that a particular group is protected from media violence effects completely or that a certain moderator provides complete prevention of the effect.

CHAPTER THREE

METHODOLOGY

3.1   Overview

This chapter presents the research design, participants, measures, procedure, data analysis and ethical consideration.

3.2   Research Design

The study was quantitative utilizing a factorial design of 2x3x2. Data were self-reported with three independent variables such as (i) gender, (ii) socio-economic status (SES) and (iii) aggression were used. The used a $2\times3\times2$ factorial design consisting of two levels of gender (girls / boys), two levels of socio-economic status (private / public) and three levels of aggression (physical /verbal / anger). Analysis of Variance (ANOVA) was computed on total scores of the BPQ. Thus, a three-way ANOVA involving two levels of gender, two levels of SES and three levels of aggression was computed. Correlation and regression were also computed to determine the kind of relationship existed and if it was predicted by video game exposure. It is however important to note that the present study depended fully on participant's self-reports. There are many limits with this technique in that, participants may incorrectly report information about themselves. It is also important to note that other variables such as one's environment (residential background) were not controlled for, thus it can not be concluded that the increased levels of aggression may have been as a result of the violent video games alone when other variable such as parents, peers, etc may also have an influence. Also, personal characteristics were not accounted for.

3.3   Participants

A total of 200 students (100 males and 100 females) from two secondary schools of Lusaka district were recruited; one school being private and the other public. The two schools were used so as to find out if at all one being at a private or public school did determine access to or in anyway influence the use of violent video games. The age range of the participants was between 14 to 19 years of age. Randomly, in each seating column, two girls and two boys were selected.

3.4   Measures

Aggression was measured using the Buss Perry Aggression Scale (AG) while video game exposure was measured using the Free Time Questionnaire (FTQ). The demographic information sheet and the Free Time Questionnaire (FTQ) were adopted from Gunderson (2006) which indicated a strong reliability alpha of d=.68.

All participants completed a demographic information sheet that included variables such as; gender, age, grade level, and parent or guardian's education level and career (Appendix A). They also completed other questionnaires measuring exposure to video game violence and aggression.

The Free Time Questionnaire measured media exposure but for the intention of this particular study only the video game violence exposure was considered (FTQ; Funk, 2004) (see Appendix B). This questionnaire had 5 items which were used for data collection with two sections: one on time and the other on Video Game. The first two items measured time. *One looked at how long the participant had been playing the video games while the other looked at time spent playing in an average week.* The video game section on the other hand included such activities as *figuring out, no fighting or destruction; reach goals, kill or be killed, cartoon characters; and sports with fighting*. Here three favorite video games are listed by each participant and then rated each on amount of violent content and on how frequently they played each of the three games. The scores were computed by multiplying the violent content rating by the frequency of play for each listed game, then averaging the three scores. Acceptable internal reliability has been found for the instrument (Cronbach's alpha = .74) (Buchanan, Gentile, Nelson, Walsh, & Hensel, 2002). This reliability is consistent with records in a study on adolescents conducted in South Africa. Characteristics such age range, sex, culture and secondary school students of this particular study where similar to those of the current study thus its adoption (Sherry & Lucas, 2003).

The Buss Perry Aggression Questionnaire (Buss & Perry, 1992) containing 21 items was used for data collection. The items were divided into 3 dimensions such as physical aggression (1-9 items), verbal aggression (10-14 items) and anger aggression (15-21 items). Hypothetical situations were constructed on each item. Each item was followed by 7 options varying from extremely uncharacteristic of me to extremely characteristic of me. Extremely uncharacteristic of

me was given 1 point, uncharacteristic of me was given 2 points, uncharacteristic was given 3, neutral was given 4 points, characteristic of me was given 5 points, so characteristic of me was given 6 and extremely characteristic of me was given 7 point. Some of its items include questions such as; *Once in a while I can't control the urge to strike another person. I tell my friends openly when I disagree with them. When frustrated, I let my irritation show.* A study with African American adolescents conducted by Buss and Perry in 1992 reported that the alpha coefficients for the subscales are as follows; physical (0.86), verbal (0.78), anger (0.83) and hostility (0.76) while the coefficient alpha for the whole instrument is 0.92, which indicates strong reliability (Buss & Perry, 1992). With this instrument in the present study, data was recorded according to age in ascending order for both samples with boys getting a score value of 1 and 2 for girls. (see Appendix C).

A few adjustments were made such as, simplification of English for easy reading and understanding of what was expected from the participants. For instance, words such as average, restor, argumentative and flare were changed to normal, choose, quarrelsome and get angry fast respectively. Also the questions that focused on empathy on the Buss Perry Aggression Questionnaire were left out as the researcher was only interested in the top three types of aggression.

3.5   Sampling Design and Procedure

A sample of 200 students was selected using basic probability sampling, simple random sampling method to be precise. This method was used because every student would have an equal and non-zero chance of being included. After the researcher talked to all potential participants that were randomly selected, 200 (i.e. 50 boys and 50 girls for each school) written consent forms were addressed and sent to their parents/guardians through the participants themselves informing the parents/guardians about the study and requesting consent. The reason for sending out these consent forms before the participants could consent their own forms was because they (participants) were all below the required age for one to consent on their own. These letters were to be signed and returned through the same channel to the school teacher in charge. Fortunately, all 200 consents were approved thus allowing their children to take part. Following that development, other consent forms were distributed to the participants themselves and the schools. This exercise was only conducted with senior high school students i.e., grade 10

to 12. On the day of examination, self-repot instruments were administered to all participating students in their respective classes by the researcher during prep period. Brief instructions on how to complete the questionnaires were given. It was also emphasized that their responses to questionnaires would remain anonymous, that there were no 'right' or 'wrong' answers, and that participants were supposed to answer all the questions with complete honesty. Once the questionnaires were completed, the researcher then collected them back through the school administration.

3.6   Data Analysis

The study being quantitative in nature, Statistical Package for Social Science (SPSS) was the tool utilized to analyse the data which was subjected to an ANOVA, correlation and regression analysis techniques. The ANOVA was used to compare mean scores of boys on aggression, gender and SES (school) with mean scores on the same variables for girls as a test of hypothesis one. This was done between schools and later within each school. On the other hand, correlation was used to describe what kind of relationship exists between aggression and the two samples' (boys and girls) exposure to video game violence. Regression analysis was used to find out if violent video games did predict aggression as a whole. Hypothesis two and three were tested using correlation and regression respectively.

3.7   Ethical Considerations

To start with, the Research Ethics Committee of UNZA first made their approval of the study. And once in the field, the researcher informed the participants on the objectives of the study and assured them that their participation was voluntary. Consent to participate was granted by their parents first before they themselves would consent for themselves. Once a student agreed to take part in the study, a consent form was to be taken to their parents/guardians for approval. To ensure confidentiality, only age of the participant was to be indicated on the questionnaires thus no names were recorded. And in the event that the questions triggered past experiences thus provocation or for whatever other reason, participants were also reminded of their right to withdrawn at any time (while participating or after) if they so wished.

CHAPTER FOUR

RESULTS

4.1   Presentation of Findings

This chapter presents the findings of the study. Data obtained using the tools were recorded, verified and coded. The study was conducted so as to investigate *the impact of media violence: video game playing on adolescents' in relation to aggression.* Data obtained from the participants was analyzed as presented below. Since there were differences between the schools in terms of preference of game and time spent playing, data was entered differently with each school having its own data set so as to run them separately to avoid school and gender from being confounded.

4.2   Demographic Information / Free Time Questionnaire

The collected demographic information was used to create a profile of the average respondent in the study. 75% percent of the respondents reported that their parents / guardians had had a formal education while with regards to residential background, 45% were form high class, 38% middle and 17% from lower class. It is important to note that, those that attend public school education were all from the lower class and partly from the middle class. The respondents also reported to own a device that enabled them to play different kinds of video games with private goers in the lead unlike public school goers. Also the boys from both schools had higher scores than girls from the same school on violent video game exposure. This simply indicates that indeed gender and school has a role to play in ones choice to play video games. In addition, 89% reported to have played video games before participating in the study.

More than half of the participants reported playing less than two hours of their video games in a day; on average (Boys 5.1 and Girls 1.8). Games with violent content were the most popular and favorite according to the reported information (Boys 67% and Girls 32%). Further, respondents listed violent games for 2 out of 3 of the titles as frequently played. More than half of the participants indicated violent games for all three of their most frequently played titles. Game content classification (either violent / non-violent) was based on whether main action is a story or game involving a cartoon or real character engaged in fighting or destruction (Funk, 2004).

Note: Numerical representations of each question in the FTQ is illustrated below in form of tables.

4.3   Differences between and within the two schools regarding violent video game exposure on aggression types

Table1 gives a summary of an ANOVA representation. The results here showed that the main effect for gender and aggression is statistically significant (p<.05). A two-way interaction between school and aggression is also statistically significant (p<.01). Additionally, a three-way interaction involving gender, school and aggression is also statistically significant (p<.01).

Table 1: Summary of an ANOVA involving gender, aggression and SES (school) on total scores.

Sources of variance	SD	df	MS	F
Gender A	391.3	1	391.30	4.14 *
SES(School) B	21.3	1	21.30	0.61
Aggression (BPQ) C	130.6	2	95.30	1.30 *
AB	1285.1	1	1285.10	15.92 **
AC	76.9	2	28.45	0.48
BC	6.4	2	2.20	0.03
ABC	1062.9	2	292.35	4.10 **
Total	2974.5	200		

*P<0.05; **P<0.01

Results (Table 1) show that a two-way interaction involving gender and SES was statistically significant (F=15.92, df =1/200, P<0.01). The above results show significant main effect for gender (F=4.14, df =1/200, P<0.05).

Table 2: General mean scores and significant mean differences between gender and aggression.

	Boy	34.35
Gender	Girl	37.03
	Physical	37.78
Aggression	Verbal	35.05
	Anger	34.25

Assessing mean scores in Table 2 shows that regardless of gender and SES, boys showed significantly higher intensity of aggression (37.03) as compared to girls (34.35) generally. The recorded mean scores above simply indicate that in spite of gender, and SES, there were more participants who gave a high score on physical aggression (37.78) as compared to those with verbal aggression (35.05) and anger (34.25). In the same way, those participants with verbal aggression (35.05) expressed significantly higher scores as compared to anger (34.25).

4.4 Interactive Gender and SES

The mean scores below showed that boys who recorded to have come from high SES area (39.05) reported significantly more aggression as compared to girls from the same school (31.10). On the other hand, boys from a lower SES (37.21) also showed significantly more aggression as compared to girls from the same school (35.01) though more than their counterparts from high SES (31.10).

Table 3: Overall mean scores together with significant mean differences between gender and SES on total scores of the BPQ.

Gender	Private School	Public School
Boy	39.05	37.21
Girl	31.10	35.01

The interactive effect between gender and SES has been graphically plotted in Figure 1.
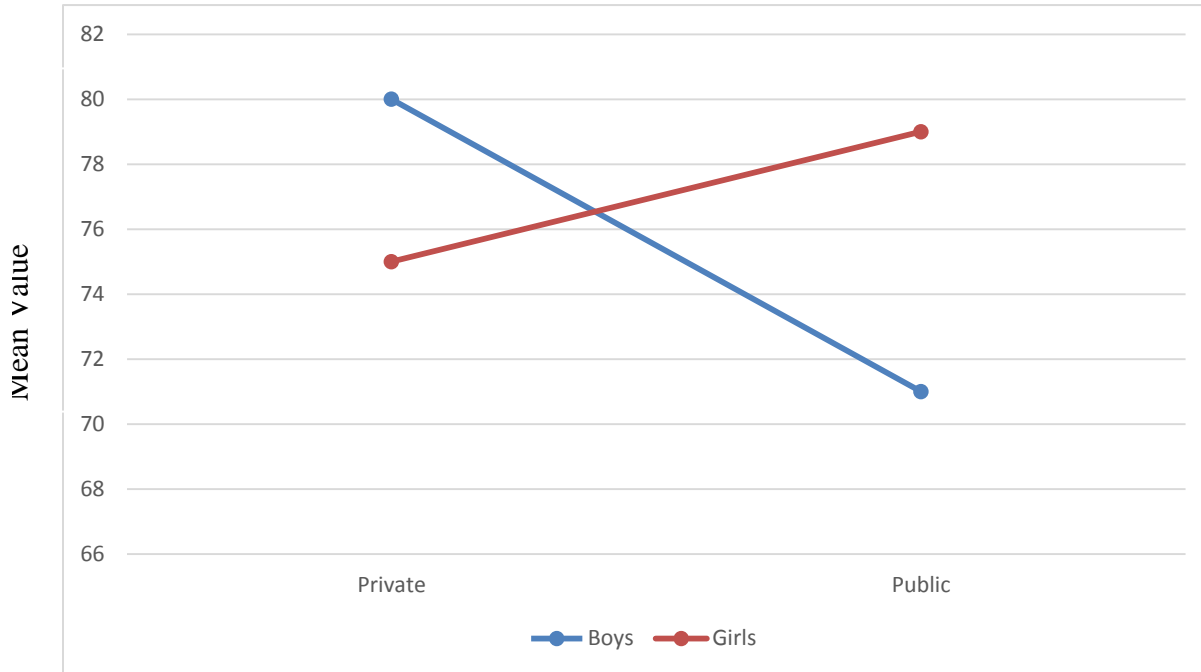
Figure 1: Two-way interaction between gender and school on aggressive behavior.

4.5 Gender, Aggression and SES

A three-way interaction was also shown in table-1 involving gender, aggression and SES. This interaction was statistically significant (F=4.10, df =1/200, P<0.01). An assessment of mean scores in table 4 showed that 80% of the boys from the private school used violent video games thus scoring high on physical aggression (43.10) and anger (43.15) therefore, revealing significantly more aggression as compared to the other participants from the same school with scores of verbal aggression (37.95). 78% of boys from the public school played violent video games with higher reports of physical aggression (51.20) thus recording significantly more aggression as compared to those with verbal aggression (42.60) and anger (48.15). Again boys from the public school with a record of anger (48.15) showed more significant aggression compared to those with verbal aggression scores (42.60).

Table 4: Overall mean scores and significant mean differences between gender, school, violent video games and aggression.

Gender	School	Violent VGs	Aggression		
		Percentage	Physical	Verbal	Anger
Boys	Private School	80	43.10	37.95	43.15
	Public School	78	51.20	42.60	48.15
Girls	Private School	64	31.35	43.10	43.05
	Public School	57	45.01	45.02	41.40

In case of girls, it was found that private school respondents with high verbal aggression results (43.10) reported significantly more aggression generally than those with physical aggression (31.35) and anger (43.05). Girls from the public school with verbal aggression scores recorded more aggression (45.02) as compared to those who scored high on physical aggression (45.01) and anger (41.40). Again, public school participants with high verbal aggression scores (45.02) expressed significantly more aggression as compared to public school respondents with anger scores (41.40). A three-way interaction effect has been graphically plotted in Figure 2.
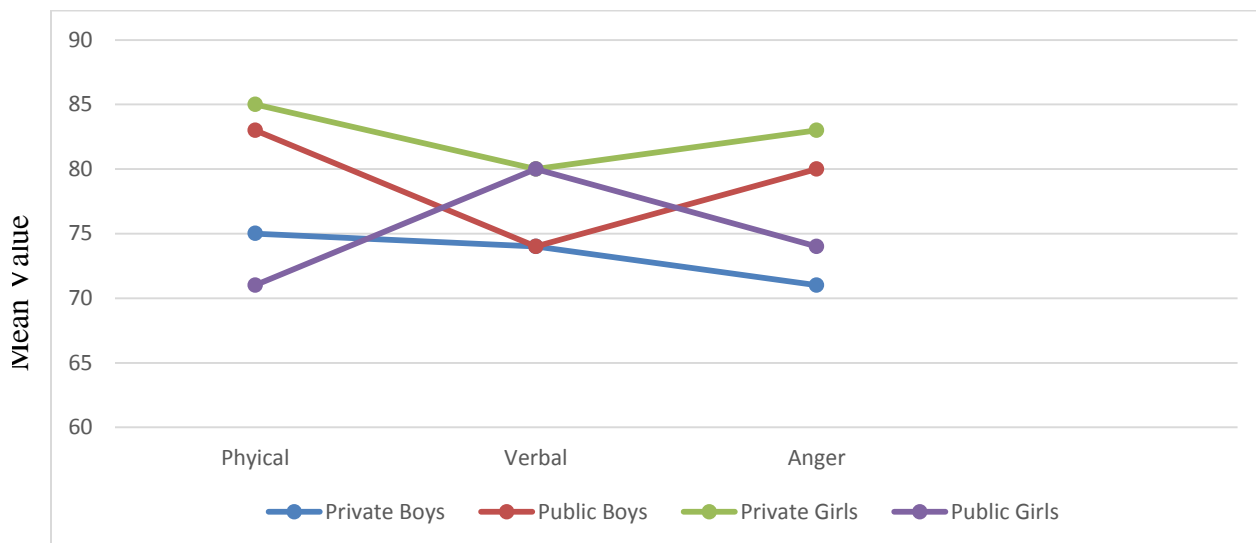

Figure 2: Three-way interaction between gender, aggression and school.

4.6 Within sample gender differences regarding violent video games on time and preference

Statistically, significant differences in preferences between boys and girls were found of which boys preferred more violent content. In this sample, the students reported spending an average time of 19.7 hours per week engaged in media consumption. There was a gender difference, with boys consuming about four hours more of media per week than the girls. Video and computer games accounted for the majority of this difference, as boys reported playing more video and computer games than did girls.

Comparable to the results obtained by the private school students, there was a significant gender difference for time and preference at the public school, with boys recording scores twice as high as those for the girls. Simply indicating that boys tend to prefer more violent video games than girls, as well as spend more time with this type of media.

4.7   Relationship between violent video games play and the three types of aggression

Table 5a: Correlation matrix: Total violent video game play vs. types of Aggression (private school)

Variables	1	2	3	4
Tot V/G	-			
Physical Aggress	.301**	-		
Verbal Aggress	.175**	.517**	-	
Anger	.171**	.524**	.526**	-

**. Sig =.01 level (2-tailed).

Table 5a presents the association between violent video game playing and forms of aggression. All three components of the Aggression scale, that is; physical aggression, anger and verbal aggression were found to be positively associated with total amount of violent video game playing. In comparison, physical aggression traced to be more strongly correlated (r=.30, p<0.01) to total violent video game playing unlike the other two types of aggression (anger and verbal) with an effect size of r=0.3.

Table 5b: Correlation Matrix. Total Violent Video Game Play vs. Type of Aggression (public school)

Variables	1	2	3	4
Tot V/G	–			
Physical Aggression	.101**	–		
Verbal Aggression	.053**	.305**	–	
Anger	.050**	.101**	.304**	–

**Sig=.01 level (2-tailed)

Table 5b presents the association between violent video game playing and forms of aggression. Alike to the private school adolescents, all three components of aggression; physical aggression, anger and verbal aggression were found to be positively associated with total amount of violent video game playing. In comparison, physical aggression traced to be more strongly correlated (r=.20, p<0.01) to total violent video game playing unlike the other two types of aggression (anger and verbal) with an effect size of 0.65.

4.6   Predictions between Violent Video Game Play and Three Types of Aggression

To determine the variance in aggression accounted for by video game playing, additional analysis was carried out using a simple linear regression procedure. Significant prediction of aggression of 8.1% was accounted for in relation to the total violent video games played.

In the same way as that of the private school under regression analysis, the fraction of variance exposed in the quantity of aggression, additional analysis was carried out using a simple linear regression procedure. Significant prediction of aggression of 6.1% was accounted for in relation to the total violent video games played.

CHAPTER FIVE

DISCUSSION

5.1   Overview

This chapter presents a discussion of the findings of the study regarding violent video games in relation to three types of aggression; anger, physical and verbal in adolescents. The study goes further on to discuss the impact and predictions of violent video games on aggression. Since the results were analyzed differently due to the differences found, the discussion was also done separately. It is however important to note that all hypotheses were accepted.

5.2   Differences Expected between the two School on types of Aggression and Violent Video Games

An analysis of result has indicated that regardless of school, boys expressed significantly more aggression as compared to girls. From the data collected, boys unlike girls played more of the violent games and spent more time doing so. Thus this may be one of the explanations for the high aggression recorded. On the other hand, their quest to be entertained and pass time by playing video games, girls just as much as boys unconsciously pick up negative acts without knowing and when faced with problems, it is, therefore, possible that the girls express protest behavior against unequal treatment and injustice through aggression and this may be physically, verbally or anger though rarely as is the case in the current study. Even with this at hand, the study found that the boys reported to have been more aggressive than the girls.

This finding about greater aggression in boys than girls has been supported by some research findings conducted by other researchers. For instance, Lanctot and LeBlanc (2003) conducted the Gender and Aggression Project in Canadian Institutes for Health Research and reported that gender difference in aggression have several forms. It was concluded that females tend to engage more in relational aggression, but males tend to engage more in physical aggression (Crick 1995 as cited in Mwanza, 2015). These findings partially supported the findings of the present study relating to gender differences in aggression.

5.3   Discussion of Results for the Participants from the Two Schools

To begin with, the findings of the study reveal that adolescents from the private school had higher mean standard scores than those of the public school on video game exposure. Statistically significant differences where found between the groups that is; (t = -5.88, df = 198, d = -1.02, p < .01) on all three levels of aggression. These results suggest that in terms of differences found, the participants were all affected by the violent video games aggressively. One may suggest that the difference between the two schools may be because children attending school at the private school may have more access (for example, SES as a determining factor) to violent video games than those from public schools (Anderson et al., 2004). The other reason for this disparity between the two groups from (Browne et al., 2002) point of view maybe that other than violent video games, adolescents from private schools may have additional forms of media thus explaining the difference of the small gap between the two.

5.4   Discussion of Results for the Private School Adolescents

The two genders were equally distributed numerically. As hypothesized, differences were present between the girls and the boys. Unlike the girls, the findings of the current study suggested that the boys play more violent video games. Notwithstanding obvious knowledge of the gender differences, agreeing with experimental explanations, it increases the level of concerns, in that, past findings point out that boys may be more affected by violent video games than girls (Breslau et al., 1991). The findings of the current study were also similar to other past research findings for example, a longitudinal study by (Baxter et al., 1985). On the other hand, a study conducted by (Fitzpatrick & Boldizar, 1993) indicated the opposite. This particular study found that girls just like boys, especially if from well to do families and from high residential areas played violent video games just as much and the impact that these violent games had on them was no different in any way. From an observation point of view, in most instances, boys played more of video games then unlike girls mainly because girls were restricted to most of the house chaos but due to modernization/industrialization, girls do play just as much as boys do. And generally, video games were considered to be for boys.

According to the hypothesis, it was expected that exposure to video game violence within each gender would increase the levels of the three types of aggression; physical, verbal and anger. The

study found higher levels of physical aggression among boys as compared to girls who equally play violent video games. This, in part, may be due to the fact that boys are to a larger extent the heaviest players of violent games as the findings of (Baxter et al., 1985), who adds that in as much as most studies may argue and advocate that boys in general are more aggressive than girls, it is imperative to also take note of the possibility that boys may be more responsive or easily primed by aggressive signals (as cited in Anderson, 1997). Aside this, boys reported higher levels of anger while the girls scored higher on verbal aggression. Because boys were more angry this could explain the higher levels of physical aggression (physical fights) than getting into arguments with peers and teachers like was the case with the girls. It is important to note that physical aggression was ranking the highest among the three levels and one reason for this would be that most models in these violent games portray very little arguments while a great deal exists in the physical sense. The other reason would be that most games and game characters of a violent nature are intended for the boys unlike the girls.

Based on the observational theory and imitation, a positive relationship was expected to exist between exposure to violent video games and aggression. Correlation analyses results support the theory and alternative hypothesis for the current study. It can be said with certainty that, all levels of aggression did correlate positively with violent video game play. The associations held true for both girls and boys. Similar outcomes are found in studies by (Browne et al., 2000; Calvert & Tan, 1994; Elander & Rutter, 1995) in all of these studies video game violence exposure has demonstrated significant associations with aggression. In the current study physical aggression scored higher than the other two. Gifford (2004) insists that findings such as the ones of the current study simply mean that media violence; that is, violent video games inclusive was positively associated with aggression. In Irwin and Gross (1995) study, some students were asked to play violent video games while others played non violent video games. What was found in this study was that those that played violent games spent more than 15 hours playing and were more likely to get involved in physical fights and get into arguments with peers, parents and teachers more often unlike those that played non-violent video games.

The predictions in terms of aggression as a whole were just as strong, thus accepting the hypothesis which indicated that there would be no predictions. It was demonstrated that 8.1% of the discrepancy in the study's participant's aggressive behavior was as a result of exposure to

video game violence. Additionally, physical aggression accounted for the greater part of the variance in all three variables. Consistent with the finding of the current study is a study by (McClosky & Lichter, 2003) which suggested that media, video games inclusive did score above average in relation to aggression more than ones surroundings and much of the aggression was physical. This is also true in relation with the observational learning theory and imitation, which hypothesizes that observation of aggressive behavior by being in contact with media violence, may eventually lead to increased probability of aggressive actions in a given social encounter thus confidently advocating that video game violence does indeed predict aggression. Swenson, et al. (2005), in some long-term longitudinal studies have stipulated that aggressive behaviors is in the long run predicted by habitual utilization of media violence while on the other hand early aggressive behaviors does not in any way predict later media violence use up routine (). In support of the current study, the above statement simply shows that the two samples aggressive acts where a prediction of a stimulating condition such as violent video games that they were exposed to.

5.5   Discussion of Results for the Public School Adolescents

Results for public school adolescents were not any different from the results obtained from the private school students in that gender differences did exist. Boys reported that they played more violent video games in contrast to the girls. Other than that, the boys also reported to have tendency of preferring games of a violent content and that they spent more time playing as compared to the girls. Similar studies like that of (Thornton et al., 2000) though comparing private and public schools record that boys unlike girls in a sample of 250 high school adolescents in Cuba spent more than 2 hours playing violent video games and close to twenty hours over the weekend. Another study by (Waite, Hillbrand & Foster, 1992) found that high school boys in Canada sent a lot of time playing video game of any nature either violent or nonviolent. In addition, both studies above recorded significant gender differences.

The findings of this study also stipulated physical aggression levels of public school boys to be higher than those of the girls of which both indicated that they do engage in violent video game play. Even though other scholars and researchers may argue that males are more aggressive than females collectively, it is vital to emphases the point that maybe by and large males may just be more interested or without difficulty primed by destructive cues (Weingarten, 2003). Related

study is one conducted by (Walsh, 2000) in the US. This study found that even after having the males play non-violent games and females violent one's, the boys still report to be more aggressive than the girls. From this experiment what can be concluded is that, males are naturally aggressive inspite of what other variables presented to them. Other studies with finding as the one above are (Rehman & Reilly, 1985; Orpinas & Frankowski, 2001) violent video games. Again, as per expectations of the hypothesis and in agreement with results from the private school sample, video game violence exposure was significantly associated with all three levels of aggression. Also just as the findings from the other school sample, physical aggression was more strongly associated as compared to the two. In a (1997) study by Anderson 197 adolescents were recruited from two towns and from the findings of this study, the boys from both samples were five times physically aggressive than they were verbally aggressive and three times more than they reported to be angry. These finding are also consistent with (Pynooss & Eth, 1985).

Results of regression analyses were also significant, indicating that for public school adolescents, real video game violence exposure did predict levels of aggression with 6.1% accounted for. For example, (Udwin et al., 2000) found that video game violence exposure was a significant predictor of aggression as a whole, even when variables such as gender, school, personality, and sum of video game play were controlled for. But this is not to mean that children who do not play violent video games or video games at all (if any) are aggressive behavior free.

5.6   Implications

The differences in preference of games and time spent playing that are seen in the two schools need to be taken as meaningful and serious because they tend to have greater negative consequence in adulthood (Moses, 1999). A longitudinal study by (Molitor & Hirsch, 1994) confirms this.

Based on the findings of the study from the two schools, important evidence on the impact and relationship that violent video games have on adolescents' aggression levels was revealed. As is the case, all the results were statistically significant indicating that indeed video game violence can increase ones aggression levels later on; be it physical, verbal or anger. According to this study, it's with clarity that when contact to violent video games was frequent it increased levels of aggression among the participants just as observed in studies conducted in countries of the

West. As a result of violent video games both boys and girls are well able to acquire elevated levels of aggressive behavior even if significant gender differences did occur concerning these levels of aggression. Another strong implication due to increase in video game violence exposure is that, in a situation where conflict arises, an adolescent is likely to resort to physical aggression for example as a tactic in dealing with others as he/she may see it as time-honored (Funk et al., 2004).Taking into account the rates of aggressive behavior shown in the two participating schools, the reflection of the findings of the current study can act as ground work data to help advocate for caution among parents and school administrations so that they can take centre stage where video game contents are concerned and also paying attention to the age restrictions/ratings.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

In conclusion, the study found that all participants played video games and preferred the ones with a violent content and this was most true for the boys unlike the girls. Differences were found between the participants from the two schools with the private school scoring higher on aggression while in each sample, the boys in comparison to the girls scored higher in violent video game preference and time spend playing. In the current study, a significant positive relationship existed between aggression and violent video games. In this relationship, physical aggression was more strongly correlated as compared to the other two type; verbal and anger. Consistent with other studies that have reported that violent video games predict aggression as whole, the current study also stands true. Having reported this, a general conclusion would be that, violent video games in as much as they maybe a source of excitement and entertainment for adolescents, it is however important that parents be aware of the dangers inherent in playing violent video games, and should monitor their youth's game playing accordingly. Results of this study have therefore highlighted the important connection between exposure to video game violence and negative effects, such as increased levels of aggression. The results are especially significant because exposure to video game violence is relatively common during adolescence, suggesting that many adolescents are likely to demonstrate these adverse effects.

6.2 Recommendations

i. Since there is little research within the Zambian context, as a recommendation for future studies, replicating this study by increasing the participant numbers would be ideal.

ii. Other than that, stronger foundations for future studies could be established. It would be of important that designs be made experimental as the lack of such designs proves a challenge in drawing persuasive, undeniable arguments.

iii.   Secondary schools staff need to educated on the effects that violent video games so that their can later on teach/educate their students on how such affect them (students) both short and long term.

iv.   Schools can also come up with interventions such as outreach programs that may help victims of violent video games and how these affect them.

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Appendix A: Demographic Information Sheet

DEMOGRAPHIC INFORMATION

Please circle the letter or fill in the blank with information about yourself.

GENDER: A) Female B) Male

 AGE: _____ GRADE IN SCHOOL: _____

MOTHER/FEMALE GUARDIANS JOB: _____

MOTHER/FEMALE GUARDIAN'S EDUCATION LEVEL:

A) Some high school

B) Graduated from high school

C) Some college

D) Graduated from college

E) Graduated with a post-graduate degree (Masters, Ph.D., M.D.)

F) Don't know/Don't have

FATHER/MALE GUARDIANS JOB: _____

FATHER/MALE GUARDIANS EDUCATION LEVEL:

A) Some high school

B) Graduated from high school

C) Some college

D) Graduated from college

E) Graduated with a post-graduate degree (Masters, Ph.D., M.D.)

F) Don't know

Residential Background

    A) High class (5500-10,000)

    B) Middle class (3000-5000)

    C) Low class (2500-below)

Appendix B: The Free Time Questionnaire

Free Time Questionnaire

Please answer the following questions as completely as you can. Remember, your answers are completely private and no one will know how you answered.

TIME

1 .How **long** have you been playing video and/or computer games?

___Don't play at all/anymore ___ 1 year to 2 years

___less than one month ___ 2 to 5 years

___one month to 1 year ___ more than 5 years

2. Time spent in an average **week** playing video or computer games.

___no time ___7 to 10 hours each week

___1 to 2 hours each week ___11 to 14 hours each week

___3 to 6 hours each week ___15 or more hours each week

ACTIVITIES

VIDEO AND COMPUTER GAMES

1.) Write down the name of your **most favorite** video or computer game: _____

Check one group of words that best describes your **favorite** video or computer game:

___figuring out, learning

___sports, no fighting

___reach goals, kill or be killed, real people

___story or game, no fighting or destruction

___reach goals, kill or be killed, cartoon characters

___sports with fighting

___I have no favorite video game

2.) Write down the name of your **second** favorite video or computer game: _____

Check **one** group of words that best describe your **second favorite** video or computer game:

___figuring out, learning

___sports, no fighting

___reach goals, kill or be killed, real people

___story or game, no fighting or destruction

___reach goals, kill or be killed, cartoon characters

___sports with fighting

___I have no second favorite video game

3.) Write down the name of your **third** favorite video or computer game: _____

Check **one** group of words that best describes your **third favorite** video or computer game:

___figuring out, learning

___sports, no fighting

___reach goals, kill or be killed, real people

___story or game, no fighting or destruction

___reach goals, kill or be killed, cartoon characters

___sports with fighting

___I have no third favorite video game.

Appendix C: Buss-Perry Scale

Buss-Perry Scale

Please rate each of the following items in terms of how characteristic they are of you. Use the following scale for answering these items.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Extremely   Extremely   uncharacteristic   characteristic of me
of me

1) Once in a while I can't control the urge to strike another person.

2) Given enough provocation, I may hit another person.

3) If somebody hits me, I hit back.

4) I get into fights a little more than the average person.

5) If I have to resort to violence to protect my rights, I will.

6) There are people who pushed me so far that we came to blows.

7) I can think of no good reason for ever hitting a person.

8) I have threatened people I know.

9) I have become so mad that I have broken things.

10) I tell my friends openly when I disagree with them.

11) I often find myself disagreeing with people.

12) When people annoy me, I may tell them what I think of them.

13) I can't help getting into arguments when people disagree with me.

14) My friends say that I'm somewhat argumentative.

15) I flare up quickly but get over it quickly.

16) When frustrated, I let my irritation show.

17) I sometimes feel like a powder keg ready to explode.

18) I am an even-tempered person.

19) Some of my friends think I'm a hothead.

20) Sometimes I fly off the handle for no good reason.

21) I have trouble controlling my temper.

22) I am sometimes eaten up with jealousy.

23) At times I feel I have gotten a raw deal out of life.

24) Other people always seem to get the breaks.

25) I wonder why sometimes I feel so bitter about things.

26) I know that "friends" talk about me behind my back.

27) I am suspicious of overly friendly strangers.

28) I sometimes feel that people are laughing at me behind me back.

29) When people are especially nice, I wonder what they want.

1-9 Physical Aggression; 10-14 Verbal Aggression; 15-21 Anger; 22-29 Hostility

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Appendix D: Consent Forms

Dear parents; we need your help!

You can help us understand more about youth violence.

A study on violent video game play will be conducted at your child's school under the supervision of Mrs Bupe Nakazwe-Sumbwa. It is our hope that all students from selected grades participate. Students who have permission and agree to participate will be asked to provide basic demographic information and will complete two questionnaires measuring exposure to violence video games and another on types of aggression.

This session, will take place at your child's school during prep time and is likely to last about 30 minutes. All answers will be confidential and your child's name will never be used in any research report. If your child wishes to stop participating, he or she may do so at any time, and be rest assured that this stoppage has no negative consequences of any kind.

There may be some minor risks among the participants associated with this study such as feelings of anxiety when they are asked to share experiences of violent exposure. If this does occur, students will be encouraged to speak with the school counselor and immediate withdraw will be advised. The benefit of this project is that we may learn more about youth exposure to violence and its relation to aggression. This information may help us develop more effective violence prevention and treatment programs. If you choose not to participate, this will not affect you or your child's relationship with the school or with the University of Zambia.

If you permit your child to participate in this study, please sign below and ask your child to return it to his/her teacher.

CONSENT: My son/daughter may participate in the violence study.

_____   _____

  Name of student   Name of parent/guardian

_____   _____

Signature of parent   Date of signature

School: Informed Consent for Research

Student Investigator: Bupe Nakazwe-Sumbwa, M.A.

Affiliation: University of Zambia Psychology Department

_____ School agrees to allow students who have parental consent and who give their consent themselves to participate in the project titled *Impact of Violent Video Game Play in Adolescents in Relation to Aggression,* to be conducted by BupeNakazwe-Sumbwa, a graduate student from the University of Zambia. I understand that participating students will be asked to complete some questionnaires measuring exposure to video game play violence and aggression. This should take students approximately 45 minutes total. Student responses will remain anonymous and all information will be kept strictly confidential.

_____   _____

Authorized Signature   Date of Signature

School Students: Informed Consent for Research

Student Investigator: Bupe Nakazwe-Sumbwa, M.A.

Affiliation: University of Zambia Psychology Department

You are asked to participate in a study that looks at how your experiences to violence through video games might be related to your behavior. If you agree to participate in this study, you will be asked to write down basic information about yourself and to complete some questionnaires. There is no "right or wrong answer", so please be honest on all questionnaires. These usually take 20 to 30 minutes to complete. You will not be writing your name on any of the questionnaires so all of your answers will be anonymous and confidential and this means no one will ever know how you answered the questions.

We would like you to participate in this study, but you are free to say no or to stop working on questionnaires at any time. You will not be punished if you decide you do not want to be in the study. There is a possibility of a risk that you might feel upset when reading some of the questions as they may bring back to mind the past experiences. In the event that this happens and you feel like withdrawing, please feel free to do so. The benefit of this study is that you are helping us to learn more about teens' experiences and behaviors.

If you have any questions, please ask them now.

By signing below, you agree to participate in this study.

_____ _____

        Signature   Date