

VIDEO GAMES AND VIOLENCE: A CONTENT ANALYSIS
OF PRINT ADVERTISEMENTS AND
INTERNET TRAILERS

by

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A THESIS

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ABSTRACT

This study examined the level of violent content in video game advertisements and trailers. For the purposes of this study, violence was defined as an act intended to cause physical harm (Harris, 2004). Violent content was considered to fall into three different categories: weapons, violent actions, and violent words (Scharrer, 2004). The instances of each were coded, including the type of weapons and actions, and compiled to determine violent content along with race and gender of characters, as well as the genre and the rating and the content descriptors designated by the Electronic Software Ratings Board (ESRB).

The print video game advertisements were selected from editions from two popular video game magazines published between 2007 and 2010. Each novel advertisement found in a magazine was included in the sample and the corresponding trailer for each game was downloaded from a website dedicated to video games. The resulting sample included 347 print advertisements and 260 trailers (n = 607).

The data collected by this content analysis indicated that violence is prevalent in video games, 78.9% of the games included violent content. The genre and rating were each shown to have significant relationships with the number of violent words in the games; however the medium and the number of violent words were not related, indicating that game developers and advertisers rely heavily of exciting images to attract players when creating advertisements. The General Aggression Model, Social Learning Theory, and Cultivation Theory were used as a foundation for this study and indicated the dangers of a media diet that is heavy in violence. These three theories indicated that consuming media riddled with violence leads to an ominous worldview and to aggressive responses to social situation and hostile learned behaviors.

DEDICATION

This thesis is dedicated to my parents. I could not have completed it without their assistance and knowledge.

LIST OF ABBREVIATIONS AND SYMBOLS

<i>a</i>	Cronbach's index of internal consistency
<i>df</i>	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
<i>F</i>	Fisher's <i>F</i> ratio: A ration of two variances
<i>M</i>	Mean: the sum of a set of measurements divided by the number of measurements in the set
<i>p</i>	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
<i>r</i>	Pearson product-moment correlation
<i>t</i>	Computed value of <i>t</i> test
<	Less than
=	Equal to
n	sample size

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CONTENTS

ABSTRACT.....	ii
DEDICATION.....	iii
LIST OF ABBREVIATIONS AND SYMBOLS	iv
ACKNOWLEDGMENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
1. INTRODUCTION	1
2. LITERATURE REVIEW	3
a. Theoretical Framework.....	3
i. General Aggression Model	3
ii. Social Learning Theory	6
iii. Cultivation Theory.....	8
iv. Research Questions.....	9
b. The Stages of Cognitive and Motor Development of Children and Adolescents	10
c. Children as Consumers	11
d. Development of Consumer Behavior.....	13
e. Children, Violence and Video Games.....	14
f. Video Game Genres.....	16
g. Video Game Rating System.....	17

h. Violence and Video Game Advertisements.....	21
i. Gender, Race, and Video Games	22
3. METHODOLOGY	24
a. Sample.....	24
b. Procedure	25
4. RESULTS	28
a. Descriptive Statistics of Print Advertisements.....	28
b. Descriptive Statistics of Trailers.....	31
c. Descriptive Statistics of Entire Sample.....	33
d. Hypothesis Tests	35
e. Research Questions	37
5. DISCUSSION	39
REFERENCES	43
APPENDIX A.....	49
APPENDIX B	50
APPENDIX C	52

LIST OF TABLES

4.1 Descriptive Statistics of Weapon Use in Print Advertisements	30
4.2 Descriptive Statistics of Violent Acts in Print Advertisements	30
4.3 Descriptive Statistics of Weapon Use in Trailers	32
4.4 Descriptive Statistics of Violent Acts in Trailers	33
4.5 Descriptive Statistics of Weapon Use in Print Ads and Trailers	34
4.6 Descriptive Statistics of Violent Acts in Print Ads and Trailers	35

LIST OF FIGURES

2.1 Visual Representation of the Cyclical Nature of GAM	5
2.2 ESRB Content Descriptors Divided into Categories	19

CHAPTER 1

INTRODUCTION

Video games have become an increasingly popular form of media in American households (Strasburger, Wilson, & Jordan, 2009). The Entertainment Software Association (ESA) reported that 68% of American households regularly play video or computer games (2009). The ESA also claimed that 40% of video game players are women and that women over the age of 18 represented 34% of “gamers,” while boys under the age of 17 represented only 18% (2009). However, a large number of concerns have been raised by both parents and researchers concerning the amount of time children spend playing video games, the violence found in a number of video games, and the effects these two elements have on the physiological, cognitive, behavioral, and social development of children (Strasburger, Wilson, & Jordan, 2009).

Because of their intrinsically interactive nature, video games developed a reputation as one of the most problematic types of media. Many have worried about the time children and adolescents spend with video games. Young boys between the ages of 8 and 13 reportedly spent an average of 7.5 hours per week with computer and video games (Strasburger, Wilson, & Jordan, 2009). A number of studies indicated that the amount of time children spend playing video games typically peaks between fourth and eighth grade (Buchman & Funk, 1996). This corresponded to what many developmental psychologists have referred to as the Concrete Operational Period (between approximately ages 7 and 11 years). According to psychologist, the concrete operational period was marked by a child’s ability to create and use “operations,” or

internalized mental procedures that make up an organized structure (Miller, 2002). With the development of operational thought, the solutions and representations that a child designed became dynamic and fluid (Miller, 2002). As a result, the concern most commonly expressed by parents and researchers was the influence of video game content on the development of operational thought.

All children may not have access to video games; however video game advertisements are readily available to most children. Printed advertisements are found in a variety of magazines, and there are a growing number of magazines that cater specifically to video game players. Children are given access to these magazines in book stores and in most public libraries. Video games are often advertised on television or online in the form of a video clip or trailer. Children may see video games while watching television or may seek out a trailer online to learn more about a game.

Very little research has been conducted concerning violence in video game advertisements. Therefore, this content analysis examined printed advertisements and trailers for video games because they are readily available to anyone with access to a library or an internet connection. This study looked at the prevalence of violence in video game advertisements and trailers, analyzed the content according to genre and rating of each game, and compared the prevalence of violence found in advertisements according to the medium in which they are presented.

CHAPTER 2

LITERATURE REVIEW

a. Theoretical Framework

This study was grounded in three theories commonly applied to media research: the General Aggression Model, Social Learning Theory, and Cultivation Theory. The General Aggression Model helped to explain the danger of exposure to violent content and the subsequent development of aggressive tendencies (e.g., Anderson & Bushman, 2002). Social Learning Theory detailed the development of aggressive behaviors in children as a result of modeling (e.g., Bandura, Ross, & Ross, 1961). Finally, Cultivation Theory suggested that individuals that consume large amounts of media have a different perception of the world in which they live (e.g., Harris, 2004). However, the General Aggression Model and Social Learning Theory detailed the processes which lead to aggressive responses and actions while Cultivation Theory explained the creation of a personal perspective that the world is frightening. The following sections provided more detail about these theories and how they applied to this content analysis.

i. The General Aggression Model

The General Aggression Model (GAM) offered an explanation as to the possible reasons exposure to violent content increased the risks of aggressive tendencies in individuals (Anderson & Bushman, 2002; Anderson & Carnagey, 2004; Anderson et al., 2004; Anderson & Huesmann, 2003). The GAM stated that behavior was largely dependent on previously formed

knowledge structures created using social learning processes (Social Learning Theory was expanded upon in the following section). Social learning was said to occur when individuals observed someone else responding to a situation and mimic the observed behavior (Harris, 2004). According to the GAM, there were three types of variables-- input variables, routes, and outcomes-- which were connected in a cyclical relationship and interacted to affect aggression (Gunderson, 2006). Input variables fell into two categories: person variables or genetics, dispositions, and attitudes; and situational input variables or environmental influences such as exposure to a violent household or violent media (Anderson & Bushman, 2001). The GAM did not imply that that situational and person input variables directly affect aggression; instead they influenced a person's "internal state," leading to changes in their thoughts and responses (Gunderson, 2006).

Another important facet of the GAM was that social learning occurs constantly, in either real situations, such as dealings with family, or imagined situations, like exposure to violent media content (Gunderson, 2006). If either of these types of situations were experienced and influenced by violence, social learning occurred along with desensitization and changes to the previously established aggression-related knowledge structures (Gunderson, 2006). The figure on the following page provided a visual representation of the processes involved in the GAM:

Figure 2.1

Visual Representation of the Cyclical Nature of GAM

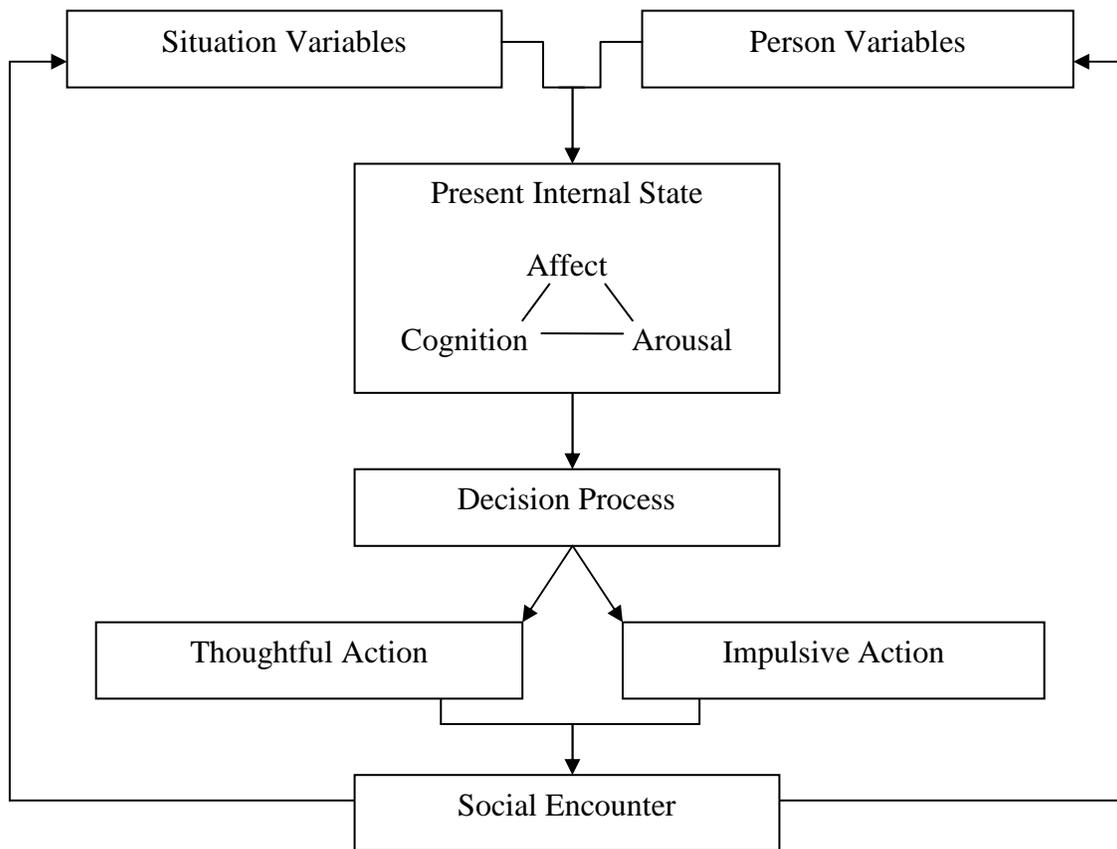


Figure 2.1 was a visual representation of the cyclical nature of the General Aggression Model. It represented the interaction between person and situation variables when determining a response to a social encounter. Adapted from “Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal and prosocial behavior: A meta analytic review of scientific literature,” by C. Anderson and B. Bushman, 2001, *Psychological Science*, 12, 353-359.

After examining the General Aggression Model, the dangers of surrounding oneself with a steady diet of violent video games became more evident. Situation and person variables interacted to influence the way in which a person evaluated a situation, leading to either thoughtful or impulsive action in response to a social encounter (Anderson et al. 2004). Previous research identified aggressive tendencies and desensitization to violence as the two most influential variables in creating an aggressive personality (Anderson et. al, 2004), supporting the

importance of the concepts of person variables (aggressive tendencies) and situation variables (desensitization from environmental factors) in determining reactions to situations. An environment rich in dangerous, violent situational variables, such as violent media, could have interacted with person variables leading to aggressive, impulsive responses to social situations. Because of this possible interaction, a culturally current, yet developed awareness of the content of video games remained essential.

ii. Social Learning Theory

Social Learning Theory, first proposed by Albert Bandura, was an alternative to traditional learning theory which credited experience as the largest contributor to learning. Social Learning Theory stated that individuals learn behaviors by observing other individuals perform them and then by imitating those behaviors (Harris, 2004). Bandura and his colleagues proposed that observation played a key role in learning (Bandura, Ross, & Ross, 1961). Their research found that children who observed a model who acted violently toward a doll were more likely to act aggressively than children who observed a model who was not violent (Bandura, Ross, & Ross, 1961). In subsequent studies they found that children also imitated a figure on a screen and a cartoon figure (Bandura, et al., 1963). It can be assumed, then, that children watching or playing a video game would exhibit similar learning patterns; video games were essentially interactive cartoons and characters in video games were becoming increasingly life-like as technology continues to evolve.

Bandura also detailed four requirements of observational learning from media. The first caveat was that individuals be exposed to and pay attention to the media. The second was that the individual must be capable of encoding and retaining the event presented by media. The third was the person must be able to interpret the symbolic concepts into actions. Finally,

reinforcement of the behavior must have occurred (Bandura, 2001, 2002). When one considered these steps and the cognitive and physiological processes that occur during video game play, the danger of exposing a child to numerous violent video games became clear. The second, third, and fourth steps of social learning theory were inherently met in a video game; children must have encoded and comprehended the game in order to progress and succeed, they must also have converted their understanding into action. Finally, each victory over an opponent and progression to new levels and challenges acted as a system of rewards, possibly leading to learned, violent behavior.

The dangers of repeated exposure to violent video games as a learning model were apparent when one considers the likelihood that the child will learn from and imitate the violent behaviors depicted. Studies have found video games require active participation and violence was often rewarded (Gunderson, 2006). Violence in video games was rarely accompanied by negative consequences (Funk, 1995). A meta-analysis of the literature concerning violent video game effects reported that exposure to violent video games was negatively associated with prosocial behaviors and positively related to aggressive affect and physiological arousal (Anderson & Bushman, 2001). Recent research has shown that there was the possibility of an association between media violence and increased hostility and aggression, and decreased empathy, effects similar to that of real life violence (Gunderson, 2006).

The components of Social Learning Theory were evident in the GAM. These two theories detailed the processes by which high levels of exposure to violent content in video games can lead to aggressive responses to social encounters. Therefore, it was important to recognize the permeation of violent content in media and video games, in the hope that aggressive or violent responses can be minimized. The literature surrounding these two theories

supported the idea that a fully developed consciousness of the level of violence in video games will be essential as they continue to grow in popularity so that an accurate knowledge of video game effects can be maintained.

iii. Cultivation Theory

Like adults, adolescents' responses varied after experiencing or viewing violence, even repeated exposure to violence; a typical response may include developing a world view of a negative, unsafe, or hostile environment (Price & Clad, 2003). Cultivation Theory helped to explain the process by which the development of such a world view may occur through excessive media consumption. Developed by George Gerbner and his colleagues, Cultivation Theory posited that media viewers learned things about the real world by gathering clues from mediated messages (Harris, 2004). As people learn from media, their worldview began to resemble the world that media presented (Gerbner, Gross, Morgan, & Signorielli, 2002); when there was a high level of consistency between the real world and the constructed worldview, resonance occurred and the cultivation effect was strong (Harris, 2004). Resonance intensified the cultivation effect; an individual's idea that the world was violent and dangerous was stronger because more of that individual's surroundings seem violent. Children that watch violent television, play violent video games, and live in a violent environment would experience an extremely high level of resonance and the cultivation effect would be very strong. As people's worldviews become more similar, mainstreaming occurred (Harris, 2004). Mainstreaming explained how the cultivation effect can materialize in a sample of the population and why similar worldviews developed in groups.

Cultivation Theory was often referred to as the "mean world syndrome" (Harris, 2004), because individuals who watch more violent television believed that the world was a more

violent place than those who were not heavy viewers (Signorielli, 1990). With this being said, a 2002 study of American children indicated that by the time children in the United States turn 18, many have viewed over 24,000 hours of media, and over half of these hours contain violence (Gentile & Walsh, 2002). Because video games continue have grown in popularity, it was possible that the number of hours children spend with media will rise, leading to higher levels of cultivation effects in children's lives. Studies have indicated that between 55% and 89% of video games that were considered popular contain violence in some form (Walsh, 2000; Children Now, 2001). A 2004 survey of middle school children indicated that a majority of both boys and girls preferred video games containing violence, 99% and 84% respectively (Funk, Fox, Chan & Gayetsky, 2004). Additionally, the effects of violent content on children would be amplified if a child lived in violent home environment or community (Slater et al., 2003).

Although some researchers were skeptical of the proposed negative effects of media violence (e.g., Rhodes, 2000), a meta-analysis performed by Anderson and his colleagues indicated a consistent and strong relationship between violent media exposure, emotional problems, and behavioral problems (Anderson et al., 2003). A number of children in the United States were constantly bombarded with violent images and situations, potentially leading to the development of a violent and dangerous view of the world and as such, violent reactions to situations and environments through socially learned behavior.

iv. Research Questions

There was very little research available to offer information concerning video game advertisements. Also, research concerning video game trailers was virtually non-existent. This study gathered information on content from both print video game advertisements and video game trailers to compile information about the content of both and to test a number of

hypotheses. This study assumed that the content presented in advertisements best represented the parts of a game which creators and distributors felt would draw players in and cause them to seek out the game portrayed (Scharrer, 2004; Russell & Lane 1993; Schudson, 1990; Wells et. al. 1998). It was also grounded in previous research that has shown that the content of video games varies according to the rating of the game (Scharrer, 2004; Smith, Lachlan, & Tamborini, 2003; Thompson & Haninger, 2001) and that violent content was prevalent in video games (Braun & Giroux, 1989; Dietz, 1998; Smith, Lachlan, & Tamborini, 2003; Thompson & Haninger, 2001). This study also sought to determine the difference in the level of violent content in print advertisements and trailers, leading to the development of four research questions:

RQ1: Will print video game advertisements or internet trailers contain more instances of weapons?

RQ2: Will print video game advertisements or internet trailers contain more instances of violent acts?

RQ3: Will print video game advertisements or internet trailers contain more instances of violent words?

RQ4: Will print video game advertisements or internet trailers contain more instances of violent content?

b. The Stages of Cognitive and Motor Development of Children and Adolescents

Developmental psychologist Jean Piaget was responsible for a great deal of the literature concerning the cognitive and motor development of children and adolescents. Piaget described four basic stages of cognitive development in children, the first of which was called the sensori-motor stage. The sensori-motor stage was described as generally occurring between the ages of birth and two years old, but was largely recognized as the stage before language emerges (Piaget,

2006). The second stage was called the pre-operational stage, occurred between typically between the ages of two and seven years-old, and was characterized by increased speech, imaginative, symbolic play, and egocentric thought (Piaget, 2006). The first two stages were only briefly covered here because they did not include the concrete problem solving abilities or advanced conceptual thinking required for many video games. The third stage was the stage of concrete operations, occurring between ages 7 and 12. This stage included logical, less-egocentric thought, and the ability to think through and solve basic problems (Piaget, 2006). The final stage of child development was called the stage of formal operations, which runs from age 12 and onward. This stage was characterized by logical reasoning and thought processes (Piaget, 2006).

Piaget and others posited that social interaction was largely responsible for progression through these developmental stages (Doise, 1996). If a child spent an inordinate amount of time with video games, it would be possible that normal socialization could be replaced by interaction with video games, leading to underdeveloped social skills, a lack of empathy, and a lack of understanding for consequences and results. If media occupied a majority of a child or adolescent's time, it would be possible that it would replace normal social interactions and influence development, therefore it was important to understand the content of media that children spend time with to better understand the possible influences on their development.

c. Children as Consumers

Advertising directed at children has been a common area of concern raised by parents and researchers (Strasburger, Wilson, & Jordan, 2009). Advertisements directed at children typically attempted to sell food or toys. In a 2005 sample of 8,854 advertisements gathered by the Kaiser Family Foundation, 31% of all advertisements during children's television programming were

for cereal, 30% were for candy or snacks, and 11% were for fast food (Gantz et al., 2007). However, toys were most commonly recognized as the main alternative to food-related commercials directed at children (Strasburger, Wilson, & Jordan, 2009). Several studies have also focused on children's ability to discriminate between advertisements and the actual program content, and they have found that the younger a child was, the less likely it was that he or she would be able to differentiate between the two (Palmer & McDowell, 1979; Butter, Popovich, Stackhouse, & Garner, 1981; Levin, Petros, & Petrella, 1982; Butter et al., 1981; Levin et al., 1982). Children also did not understand that the object of a commercial was to sell something (Strasburger, Wilson, & Jordan, 2009). Several studies determined that a child's understanding of the commercial intent of advertisements arose somewhere around eight or nine years-old (Wilson & Weiss, 1992; Blatt et al., 1972; Ward, Reale, & Levinson, 1972; Ward et al., 1977).

One of the most commonly debated concerns about children and advertising deals with whether or not children are paying attention to advertisements. One study indicated that children pay attention to advertisements about half as often as they did to television programs (Krugman, Cameron, & White, 1995), however, this study did not take into account the age of the child. Several other studies have shown that the younger a participant was, the more likely the child was to pay more attention to both the advertisement and the program (Ward, Levinson, & Wackman, 1972; Zuckerman, Ziegler, & Stevenson, 1978; Schmitt, Woolf, & Anderson, 2003). For these studies, the difference in attention levels typically occurred around seven or eight years old, depending on the age categories that the researchers used. Also, younger children were more likely to pay attention to advertisements with increased levels of auditory and visual stimulation (Greer, Potts, Wright, & Huston, 1982). This information corresponded with Piaget's developmental progression. As children age, they become more capable of processing

what was important to them and of making a rational decision about a product. For example, an older boy would watch a flashy, exciting advertisement for a action figure and realize that he probably did not want one, where as a very young boy would still find it interesting and desirable.

d. Development of Consumer Behavior

Valkenburg and Cantor (2001) defined four stages of a child's development as a consumer. These stages were related to Piaget's stages of development, however, they focused on a child's evolution as a consumer and their ability to make goal-directed decisions and to select and purchase items they could use and desired. The first phase was referred to as "Feelings, Wants, and Preferences" and referred to children and toddlers and was beyond the realm of true consumer behavior because it was not goal directed. This phase corresponded with Piaget's sensori-motor stage. The second phase, "Nagging and Negotiating," captured the preschool years, or Piaget's pro-operational stage. This phase was characterized by a child's inability to differentiate between programs and commercials and by a desire for visually appealing products (Valkenburg & Cantor, 2001). The third phase of consumer behavior during childhood was called "Adventure and the First Purchase." This phase corresponded to the beginning of the concrete operations stage and likewise was characterized by an increased sense of self, increased responsiveness to verbal or auditory cues, and an increased attention span; this was also when children typically made their "first solo purchase" (Valkenburg & Cantor, 2001). The fourth stage was called "Conformity and Fastidiousness" and typically began around age eight and lasted until about twelve years of age. Children in this age group typically were aware of their peers' buying habits, compared several products, and were aware of the intent of advertisers (Valkenburg & Cantor, 2001). Valkenburg and Cantor (2001) acknowledged that

buying habits continue to evolve as children become adolescents; however, all the fundamental development of consumer behavior have taken place by the end of these four stages.

The third and fourth stages of consumer development were particularly important to this study. These final two stages of development included children making their first purchase, becoming aware of their peers, and beginning to research products to make comparisons. Print advertisements and internet trailers could help an adolescent make a decision to purchase a game; they provided visual and auditory information about the style of the game and give an indication about the content and missions associated with the game. The advertisements and trailers were indicative of the first impression children and adolescents have of a game. A young consumer may have watched several trailers or study several advertisements before deciding to purchase a game. This study investigated two different media that might contribute to a purchase and can contribute to the body of literature surrounding video games.

e. Children, Violence, and Video Games

One of the most commonly expressed concerns of children's increased media use has been the permeation of violence in media (Strasburger, Wilson, & Jordan, 2009). This was illustrated in the National Television Violence Study, which randomly selected broadcast and cable television programs from a nine month period. They combined the selected programs to create a composite week each year and replicated the study for several years. Researchers found that 60% of all programming contained violence, and this result was replicated over three consecutive years (Wilson et. al., 1998). Additionally, researchers found that less than 5% of the programs containing violence included any antiviolence themes to warn of the potential dangers and consequences (Wilson, et. al., 1998). This research studied all types of television programming; unfortunately, violence in children's shows was more prevalent (Wilson et. al.,

1998). One study reported that a typical hour of children's television programming contained 14 acts of violence or one act every four minutes. In contrast, a typical hour of programming not directed at children contained about six violent acts or one violent incident every 12 minutes (Wilson, et al. 2002). These researchers also found that children's television was more likely to show unrealistically low levels of harm to victims of violence than other types of programs (Wilson, et al. 2002). Another study found that individuals in the presence of weapons were more likely to exhibit increased levels of aggressive behavior (Berkowitz & LePage, 1967).

Video game violence remained a topic of growing concern for people around the world. Thompson and Haninger (2001) performed a content analysis of 55 E-rated video games. Although they examined other categories, their results concerning violence were most interesting; they found that intentional violent acts were included in 64% of the games. Also, in 60% of these games, violence was required to progress throughout the stages of the game (Thompson & Haninger, 2001). Additionally, 41% of these games did not include content descriptors which indicated any kind of violent content (Thompson & Haninger, 2001). However, due to the interactive nature of video games and the ways in which video game content varies depending on the user and his or her actions, definitive and complete numbers of total violent acts in video games were not available.

Video games have grown in popularity with the young; according to Gentile and Wash (2002), children between the ages of 2 and 7 spent an average of 43 minutes per day every day playing video games. First and second grade boys have been found to play video games on average 3.5 hours per week, while girls play for about 2.5 hours each week (Funk & Buchman, 2006). In 2005, a survey of more than 2,000 children across America indicated that the average American child lived in a household with three televisions and two video game consoles

(Roberts, Foehr, & Rideout, 2005). This survey also indicated that 68% of children have a television in the bedroom and 49% of those children have a video game console attached to it (Roberts, Foehr, & Rideout, 2005).

One of the growing areas of research concerning video games has examined why people play video games. Klug and Schell (2006) proposed five reasons why people play video games: to control their environment, to vicariously experience, to vicariously live in another place or time, to explore fantasy relationships, and to experience competition. Also, a state of flow has been cited as a reason for and result of video game play. Flow is the term for the highly enjoyable state experienced when a balance between skill and challenge is achieved during an intrinsically rewarding activity (Csikszentmihalyi & Csikszentmihalyi, 1988).

There have been a small number of studies that examined the effect of video games on children. The majority of published studies have shown a negative relationship between game play and positive characteristics such as empathy, and an increase in desensitization from violent video games (Funk et al., 2003). The current study was designed to contribute to the body of literature surrounding video games, specifically video game advertisements. It will help contribute to the knowledge of what children see and hear in video games and hopefully indicate what types of content may be problematic for children, which will then need to be studied in future research.

f. Video Game Genres

Funk and Buchman (1995) broke video games down into six basic genres of content. The first type was general entertainment, which included no fighting or destruction. Second, there were educational games. Fantasy violence games contained cartoon characters which must fight and avoid being killed in order to accomplish a goal. Games with human violence had human

characters fighting and avoiding death or injury while attempting to complete a goal. The fifth type of game was non-violent sports games which include no fighting or destruction. The sixth and final type of game was violent sports games which include violence or destruction (Funk & Buchman, 1995). The categories designated by Funk and Buchman were used in the current study because they are indicative of the content. Also, determining a game's genre did not require playing the game, just looking at elements included in the advertisements and trailers. Scharrer (2004) performed a content analysis of print video game advertisements and found that action/adventure and fantasy/odyssey games contained the highest levels of violence. Scharrer's study utilized different genres than the present study; however the results should be consistent. Fantasy violence games would be expected to include more violence because they are fantasy. There would be more opportunity to use imaginative weapons and this type of game would be less likely to defy social morays. The current study operated under these assumptions and examined the previous research to develop the following hypothesizes:

H1: The genre of the game will be directly related to the number of weapons, violent acts, violent words, and total violent content, with fantasy violence having the most, followed by human violence, violent sports, non-violent sports, general entertainment, and educational.

H2: The genre of the game will be directly related to the number of content descriptors for violence, with fantasy violence having the most, followed by human violence, violent sports, non-violent sports, general entertainment, and educational.

g. Video Game Rating System

In 1994 the Entertainment Software Ratings Board (ESRB) was established by the Entertainment Software Association (ESA) to define and implement a universal ratings system

for video and computer games (About ESRB, 2009). The ESA was a conglomeration of video game, computer game, and entertainment platform producers including SONY, Microsoft Corporation, SEGA of America, Inc., Electronic Arts, and Take-Two Interactive Software (ESA Industry Facts, 2009). As concern over video game content increased, these rival companies joined together to form the ESRB to create a unified, impartial, “self-regulatory” ratings system which could be applied to all of video games (About ESRB, 2009). The ESRB Ratings System assigned each game a broad, categorical rating and included content descriptors. According to the ESRB (Game Ratings and Descriptor Guide, 2009), the ratings categories were as follows:

EC games were appropriate for children in “Early Childhood” or 3 years of age and older.

E, or “Everyone,” includes games that were suitable for children 6 and older. These games may include some “fantasy” violence and brief, mild language.

E10+ games were appropriate for everyone 10 and older; they may include “fantasy or mild violence, mild language and/or minimal suggestive themes.”

T rated games were appropriate for “Teen” children or those over 13 years of age. Titles in this category may contain “violence, suggestive themes, crude humor, minimal blood, simulated gambling, and/or infrequent use of strong language.”

M or “Mature” rated games were appropriate for those 17 and older and may include “intense violence, blood and gore, sexual content, and/or strong language.”

AO or “Adults Only” games were only considered appropriate for those 18 and older.

These titles may include “prolonged scenes of intense violence, and/or graphic sexual content and nudity.”

Content descriptors were also included for each game. They were listed below the rating on each video game and described the type of content that contributed to the game’s rating; content

descriptors were listed according to the extent of influence they have on the rating. Content descriptors were affixed by the ESRB to all games; this study took note of the content descriptors to make comparisons. The different ESRB content descriptors were broken down into four basic groups for this study: violent content, sexual content, language, and common youth problems. Breaking the content descriptors into these four categories allowed comparisons to be made about the types of content present in each game. The following included a list of ESRB rating descriptors divided among the four categories:

Figure 2.2

ESRB Content Descriptors Divided into Categories

Violent Content	Sexual Content	Language	Common Youth Problems
Fantasy Violence Intense Violence Animated Blood Blood Blood and Gore Cartoon Violence Violence Violent References Sexual Violence*	Nudity Partial Nudity Sexual Content Sexual Themes Strong Sexual Content	Language Lyrics Strong Language Strong Lyrics	Alcohol Reference Comic Mischief Crude Humor Drug Reference Real Gambling Simulated Gambling Suggestive Themes Tobacco Reference Use of Drugs Use of Alcohol Use of Tobacco Mature Humor

*Sexual Violence will be considered violent content for the purposes of this study. Figure 2.2 was a list of ESRB content descriptors affixed to video games by the ESRB ratings board before they were sold. Adapted from “Game Ratings and Content Descriptors” by ESRB, 2009.

Assuming that industry standards were correct, the rating of the game should be indicative of the level of violent content found in a video game and consequentially its advertisements. The instances of violent content and violent content descriptors should increase as the appropriate age increases. Therefore, the following hypothesizes were be tested:

H3: The rating of the video games will correspond with the number of instances of violent content in the advertisements and trailers, as the rating age increases so will the instances of violent content.

H4: The rating of the video games will correspond with the number of ESRB violent content descriptors in the advertisements and trailers, as the rating age increases so will the instances of violent content.

In 2007, Nikken, Jansz, and Schouwstra preformed an internet-based survey of 765 parents in Norway to determine to what extent parents wish to be informed about the ratings of their children's video games, which content descriptors parents were most interested in, the characteristics of the parents that expressed the most interest, and finally the extent of the relationship between the parents' desire to be informed and their mediation of the child's gaming. The researchers reported that approximately 80% of parents wanted to be aware of the age appropriate level of a game, as well as any possibly harmful effects (Nikken et al., 2007). Also, the age of the child played a large role in determining the interest level of the parent; parents with younger children were more interested in obtaining information about the games (Nikken et al., 2007). Finally, the parents were most interested in content descriptors that dealt with violence and nudity (Nikken et al., 2007). It should be noted, however, that Norway used a different system for rating video and computer games - the Pan European Game Information (PEGI) rating system - which, is similar to the ESRB rating system.

Some researchers have examined the effects of ratings and content descriptors on interest in a television program. Bushman and Stack (1996) utilized two opposing theories to evaluate the effects of rating and warning labels on interest in violent television programs. First, they used the "forbidden fruits" theory, which stated that individuals will be drawn to watch programs

with warning labels for violent content (Bushman & Stack, 1996). The theory of “forbidden fruits” is grounded in the concept of psychological reactance, or the uncomfortable psychological state that results from lost freedom and is motivated by a desire to regain freedom (Brehm, 1966, 1972; Brehm & Brehm, 1981; Wicklund, 1974). Second, the theory of “tainted fruits” was referenced. “Tainted fruits” suggests that ratings and warning labels will discourage individuals from watching a program with violent content. The research by Bushman and Stack (1996) examining forbidden fruits versus tainted fruits found that ratings and warning labels indicative of violent content were more attractive to potential viewers, supporting the “forbidden fruits” theory. In 2009, the first study was completed to examine the ratings of video games as they pertain to the concept of “forbidden fruit.” This study supported the idea that video games with age-restrictive ratings and content descriptors were more desirable to children as young as 7, with gender having no influence (Bijvank, Konijn, Bushman, & Roelofsma, 2009). Little research has applied these theories to video games, however, this seemed like an interesting perspective for future research as better understanding of the content and content descriptors of video games would be beneficial.

h. Violence and Video Game Advertisements

Erica Scharrer (2004) performed a content analysis that examined the instances of violence and objectification of women in video game advertisements. Blood (29.8%), violence (24.3%), and mild violence (11.4%) were the three most common content descriptors listed first in the advertisements. The second group of descriptors listed most often were violence (38.2%), gore (30.6%), and suggestive themes (8.1%) (Scharrer, 2004). In the advertisements, male characters were 3 times more likely to appear than females. White characters appeared in 86% of the ads; the next highest racial group portrayed was African American characters at 30.2%

(Scharrer, 2004). Finally, 55.8% of ads displayed at least one act of violence and the ads averaged at least 2.49 weapons (Scharrer, 2004). The information gathered through this content analysis indicated violent acts and weapons are prevalent in video game advertisements.

Since 2004, the market for and sale of video games has grown exponentially. The content of video game and video game advertisements has probably changed. A more recent content analysis of video game advertisements will add to the body of literature concerning video games and will help build a better understanding of the current environment presented in video games. This study investigated the content of video game advertisements in print magazines to determine if there has been an increase in violent content in video games. It also included novel information about the content of video game trailers so that future comparisons can be made. These two types of advertisements were selected because they are readily available to anyone with access to a public library and also because they included content that those marketing video games felt was interesting and enticing.

i. Gender, Race, and Video Games

The 2000 United States Census indicated that there were 281,421,906 people living in the United States. Of these 75.1% were white, 12.3% were black or African American, 3.6% were Asian, and 3.4% were some other race. Hispanic or Latino members of the population were included separately with 12.5% of the population indicating they were Hispanic or Latino and 87.5% indicating they were not (Grieco & Cassidy, 2001). Additionally, 50.9% were male and 49.9% were female (Smith & Spraggins, 2001).

A number of content analyses were conducted to determine the makeup of the characters in video games. White characters have been found to represent the majority of video game characters (Brand et al., 2003; Downs & Smith, 2005). Also, males have been found to makeup

between 71% (Beasley & Standley, 2002, Brand et al., 2003; Demers et al., 2009) and 86% (Downs & Smith, 2005). White males were generally overrepresented, whereas females and non-white characters were underrepresented (Braun & Giroux, 1989; Deitz, 1998; Haninger & Thompson, 2004). This study briefly examined the gender and racial makeup of the characters presented in video game advertisements and trailers to determine if any changes have recently occurred.

H5: White characters will appear most often, followed by Black characters, Asian characters, non-human characters, and Latino characters.

H6: White characters will use weapons more often than other characters followed by Black characters, Asian characters, non-human characters, and Latino characters.

CHAPTER 3

METHODOLOGY

a. Sample

This study was a content analysis of both printed videogame advertisements and video game trailers. The print video game advertisements appeared in 45 randomly selected issues of two magazines, GamePro and Game Informer, from the period between 2007 and 2010. For a complete list of magazines used, see Appendix A. These magazines were selected because they are not specialized to one gaming system and have large, diverse subscription bases.

Additionally, all of the magazines utilized in this content analysis were found in the children's or young adult section of a public library. All advertisements for video games were coded while those for video game platforms and accessories were not included, along with those for services, retail locations, and unrelated products (i.e.: cars or hair gel).

Print advertisements were selected from video game magazines first and then the trailer that corresponded to each advertisement was also coded; video game trailers were used because they are readily available on the Internet and televised advertisements are often edited versions of the trailers. The sampling procedure for print advertisements resulted in 817 total video game advertisements. However, advertisements repeated between months and magazines were only coded once, resulting in 347 discrete advertisements.

The coded trailers were chosen because a print version was found in one of the two magazines. The trailers were used because they offer a comprehensive, but shortened view of

the elements of each game that retailers think are the most interesting and enticing. The trailers were downloaded from an internet website which catered exclusively to video game players and producers. The website, www.gametrailers.com, allowed video game producers to upload trailers, the “launch trailer” was used for each game because it provided the information that manufacturers deemed most enticing and attractive to best attract attention to the game. Only the official company trailers for each game were used; if an official version could not be found, the trailer and corresponding advertisement were excluded from the sample. There were 260 trailers coded. Note that the total sample of trailers was less than the number of print advertisements because one game may correspond to up to 4 print advertisements for the game. All games coded were rated E, E+10, T, or M by the ESRB (no games rated AO were found). Games rated RP (Rating Pending) were also coded. All rating levels of games were included in order to allow for comparisons across all levels. The print advertisements and the trailers were combined to build a more complete and thorough analysis of video game advertisements targeting children, totaling 607 print advertisements and trailers.

b. Procedure

For each game the rating (E, T, M, etc.), genre (nonviolent sports, fantasy violence, general entertainment, etc.), and ESRB content descriptors (language, fantasy violence, sexual content, etc.) were included. For print advertisements, the size of the ad (half-page, full-page, two-page, etc.) was noted. For each video game trailer, the length in seconds was noted. (For a sample coding sheet for print advertisements, see Appendix B. For a sample coding sheet for trailers, see Appendix C.)

Each advertisement was also coded for violent content and the results were analyzed according to the rating of each individual game and the genre of the individual game. Violence

was defined as an act intended to cause physical harm (Harris, 2004) which is a commonly accepted definition used in prior literature (e.g., Gerbner, et. al., 1980; Wilson et. al., 1998). The coding categories for violence were been broken down into three different categories: violent words, violent acts, and weapons (Scharrer, 2004; Demers et. al., 2009). Violent words are words that imply harm to another being, such as “battle,” “annihilate,” “destroy,” and “avenge” (Scharrer, 2004). Violent acts were actions that were intended to harm or kill another being, such as punching, the use of explosives or guns, or swordplay (Scharrer, 2004). Each individual act was counted as an instance of violent action, for instances, if two individuals are shooting at one another, each individual shot was counted because it involved a separate act intended to cause harm. Finally weapons were instruments used with the intent to harm another being, such as guns, knives, swords, clubs, explosives, chairs, or scissors (Scharrer, 2004). Weapons were counted when they appeared, no differentiation was made between weapons that were used and weapons that were unused.

For each advertisement, the gender, race, and use of weapons for up to five characters was coded. For print advertisements, characters with the most prominent position in the advertisement were coded. This was determined by looking at the size and placement of the characters, with those that were larger and in the middle considered most important. For video trailers the first five characters that were given names or titles were coded. If less than five characters had names or titles, the first five to appear were coded. Characters that were not human were coded as such (non-human). The races included on the coding sheet for both print advertisements and trailers included: Caucasian, African American, Latino, Asian, other, non-human, and none. Characters with no discernable race were coded as “none”, this might occur if characters had on helmets or hoods or were in a dark shadow, etc. The gender for each of the

five characters was coded; if a gender could be inferred then it was included, if not it was coded as no gender (NG). Finally, whether or not each of the five main characters used a weapon was included in the coding sheet. Characters with a weapon were coded as “weapon used.”

CHAPTER 4

RESULTS

a. Descriptive Statistics of Print Advertisements

There were a total of 347 discrete ads found in 45 issues of *GamePro* and *Game Informer*, representing 260 different games. The print advertisements were fairly evenly distributed between the two magazines, with 49.6% in *GamePro* (n = 172 advertisements) and 50.4% in *Game Informer* (n = 175 advertisements). The advertisements ranged in length from one-half of a page to eight pages, however, 255 of the advertisements were one page (73.5%) and 175 advertisements were two pages (22.8%), meaning only 3.7% were not one or two pages. Additionally, the advertisements occupied 450 pages of the magazines. The most commonly appearing genre of game was fantasy violence. Of the 347 advertisements, 172 or 49.6% were fantasy violence, followed by human violence (n = 96 or 27.7%), general entertainment (n = 33 or 9.5%), non-violent sports (n = 31 or 8.9%), violent sports (n = 12 or 3.5%), and educational (n = 3 or 0.9%). The most common rating assigned to games advertised in the magazines was T (n = 121 or 34.9%). This was followed by M (n = 100 or 28.8%), E (n = 51 or 14.7%), and E+10 (n = 44 or 12.7%). Thirty-one (8.9%) of the games advertised were awaiting a rating (RP) and none of the games advertised were assigned a rating of AO.

There were a total of 927 content descriptors for the 347 advertisements. The number of content descriptors per advertisement ranged from zero (n = 58 or 16.7%) to seven (n = 3 or 0.9%), the mode was three content descriptors (21.6%). Violence was the most commonly

assigned content descriptor, it appeared in 122 or 35.2% of the games advertised. Language followed with 115 instances (33.1%), followed by suggestive themes (n = 84 or 24.2%), blood and gore (n = 76 or 21.9%), blood (n = 64 or 18.4%), and intense violence (n = 63 or 18.2%). All of the content descriptors were combined into four over-arching categories, violent content, sexual content, language, and common youth problems. Violent content appeared most often; there were 432 total content descriptors for violence and 78.1% (or n = 271) of the games had at least one content descriptor for violence. The next most common category of content descriptor was language; 189 or 54.5% of the games had at least one content descriptor for language and there were a total of 189 found in the games. The third most common category of content descriptors was related to common youth problems. This category appeared in 160 (or 46.1%) of the games and there were a total of 244 present in the games. Finally, content descriptors for sexual content only appeared in 53 (or 15.3%) of the advertisements and there were only 62 listed for all the games.

Violent content within the print advertisements was calculated by coding the total number of weapons, violent acts, and violent words in each game; these three variables were then combined to create a total violence scale. There were a total of 1,548 instances of violent content (weapons + violent acts + violent words). Of the 347 games, 261 (75.2%) had violent content. A total of 699 weapons were found in 190 (n = 54.8%) of the advertisements and the number of weapons present ranged from zero (n = 157 or 45.2%) to 27 (n = 2 or 0.6%). Table 1 is a summary of the weapons used in the print advertisements:

Table 4.1

Descriptive Statistics of Weapon Use in Print Advertisements (n = 347)

Type of Weapon	No. of Ads Used In	Percentage of Ads Used In	No. of Weapons Used	Percentage of Total Weapons
Guns	110	31.7%	400	56.50%
Swords	66	19.0%	162	22.88%
Knives	13	3.75%	41	5.79%
Axes	11	3.17%	14	1.98%
Arrows	7	2.02%	8	1.13%
Spears	3	0.86%	6	0.85%
Artillery	12	3.46%	42	5.93%
Other	18	5.19%	35	4.94%
Total	190	54.76%	708	

Violent acts were found in 139 or 40.1% of the advertisements. There were a total of 324 violent acts in the 347 advertisements. The range of violent acts in the advertisements went from zero (n = 208 or 59.9%) to 14 (which appeared once or in 0.3% of the advertisements). Table 2 includes descriptive statistics of the violent acts present in the print advertisements:

Table 4.2

Descriptive Statistics of Violent Acts in Print Advertisements (n = 347)

Type of Violent Act	No. of Ads Present In	Percentage of Ads Present In	No. of Times Appearing	Percentage of Total Violent Acts
Shooting	55	15.85%	146	44.65%
Fighting	65	18.73%	119	36.39%
Stabbing	6	1.73%	10	3.06%
Cars Crashing	5	1.44%	7	2.14%
Explosions	18	5.19%	27	8.26%
Other	5	1.44%	18	5.50%
Total	139	40.06%	327	

Finally, violent words appeared in 179 (51.6%) of the advertisements. There were 151 different violent words used and violent words were used 509 times in the print advertisements; the instances ranged from 0 (n = 168 or 48.4%) to 13 (appeared once or in 0.3% of the

advertisements). The most commonly appearing words and the derivatives were “war” (n = 66, 13.97%), followed by battle (n = 50, 9.82%), and fight (n = 44, 8.64%).

The print advertisements contained a total of 808 characters. Of these characters, 499 were Caucasian (61.8%), 61 were Black (7.5%), 55 were Asian (6.8%), 15 were Latino (1.9%), and 157 were classified as other (19.4%). Twenty one were categorized as non-humans (2.6%). There were 125 (36.0%) games that had characters with weapons and a total of 228 characters with weapons (28.2%).

b. Descriptive Statistics of Trailers

Because 260 different games were advertised for in the 45 issues of GamePro and GameInformer, 260 video game trailers were coded. The length of the trailers was recorded and the mode was 60 seconds, with a range of 250 (21 seconds to 271 seconds) and a mean of 92 seconds. The most common genre was fantasy violence which appeared 127 times (48.8%). This was followed by human violence (n = 67 or 25.8%), non-violent sports (n = 28 or 10.8%), general entertainment (n = 26 or 10%), violent sports (n = 9 or 3.5%), and educational which appeared three times or over 1.2% of the trailers. The most common rating assigned to games advertised in the magazines was T (n = 87 or 33.7%). This was followed by M (n = 76 or 29.5%), E (n = 42 or 16.37%), and E+10 (n = 38 or 14.7%). Fifteen (5.8%) of the games advertised were awaiting a rating (RP) and none of the games advertised were assigned a rating of AO.

There were a total of 689 ESRB content descriptors for the games. The number of content descriptors for each game ranged from zero (n = 40 or 15.5%) to seven (n = 2 or 0.8%). The mode was three, which occurred in 57 of the games, or 21.9%. The most commonly listed content descriptor was violence which was cited in 91 of the games (or 35%). This was followed

by language (n = 88, appearing in 33.8% of the trailers), suggestive themes (n = 60, appearing in 23.1%), and blood (n = 52 or 20.0%). There were a total of 322 content descriptors for violence found in 207 of the trailers, meaning 79.6% of the games represented by the trailers had at least one content descriptor for violence. Content descriptors for language appeared in 142 (54.6%) of the trailers, and there were a total of 142 different content descriptors. Common youth problems appeared 177 times in 118 (45.4%) of the trailers. There were a total of 47 content descriptors indicating sexual content. Only 40 games (or 15.4%) had content descriptors for sexual content.

There was a total of 6,166 instances of violent content in the video game trailers. Of the 260 game trailers, 218 (83.8%) had some form of violent content. There was a total of 2,993 weapons that appeared in 177 (68.1%) of the trailers. The number of weapons ranged from zero (n = 83 or 31.9%) to 75 (one instance or 0.4%). Table 3 is summary of the weapons used in the video game trailers:

Table 4.3

Descriptive Statistics of Weapon Use in Trailers (n = 260)

Type of Weapon	No. of Ads Used In	Percentage of Ads Used In	No. of Weapons Used	Percentage of Total Weapons
Guns	110	42.31%	1,623	54.26%
Swords	84	32.31%	956	31.96%
Knives	17	6.54%	55	1.84%
Axes	26	10.00%	76	2.54%
Arrows	12	4.62%	35	1.17%
Spears	11	4.23%	38	1.27%
Artillery	26	10.00%	120	4.01%
Other	28	10.77%	88	2.94%
Total	177	68.08%	2,991	

Violent acts appeared a total of 2,738 times in 204 (78.46%) of the 260 trailers. The range of violent acts in the advertisements went from zero (n = 56 or 21.54%) to 70 (which appeared once

or in 0.38% of the advertisements). Table 4 includes descriptive statistics of the violent acts present in the print advertisements:

Table 4.4

Descriptive Statistics of Violent Acts in Trailers (n = 260)

Type of Violent Act	No. of Ads Present In	Percentage of Ads Present In	No. of Times Appearing	Percentage of Total Violent Acts
Shooting	102	39.23%	1,184	43.20%
Fighting	132	50.77%	962	35.10%
Stabbing	10	3.85%	67	2.44%
Cars Crashing	12	4.62%	41	1.49%
Explosions	103	39.62%	467	17.04%
Other	8	3.08%	20	0.73%
Total	204	78.46%	2,741	

Finally, violent words appeared in 137 (52.8%) of the trailers. There were 137 different violent words and a total of 442 instances of violent words being used, ranging from 0 (n = 123 or 47.3%) to 14 (appeared once or in 0.4% of the advertisements) violent words in the advertisements. The most commonly appearing words and their derivatives were “fight” (n = 56, 12.67%), followed by “war” (n = 55, 12.44%), and “dead” (n = 36, 8.14%).

The trailers contained a total of 900 characters. Of these characters, 635 were Caucasian (70.6%), 119 were non-human (13.2%), 83 were Black (9.2%), 37 were Asian (4.1%), 19 were Latino (2.1%), and 7 were classified as other (0.8%). There were 128 (49.2.0%) games that had characters with weapons and 388 (43.1%) total characters with weapons.

c. Descriptive Statistics of Entire Sample

The print advertisements and trailers were combined to create a total sample of 607 items. Of the 607 games, 299 (49.3%) were fantasy violence and 163 (26.9%) were human violence. General entertainment and non-violent sports were both represented 59 times, making up 9.7% individually. Violent sports games appeared 21 times (3.5%) and educational games

appeared 6 times making up only 1.0% of the sample. Of the games 208 (34.3%) were rated T, followed by 176 games rated M (29.0%), 94 (15.5%) were rated E, 82 (13.5%) were rated E+10, and 47 (7.7%) were awaiting a rating (RP). None of the games were rated AO. Violence appeared in 213 (35.1%) of the advertisements and trailers. Language followed closely with 203 appearances (33.4%) and blood (n = 128, 20.4%). There were 754 content descriptors for violence in the 607 items in the sample (n = 478, 78.7%). Also, there were 421 content descriptors from the common youth problems category, appearing in 278 (45.8%) of the items in the sample. There were 331 content descriptors for language. Content descriptors for language appeared in 331 (54.5%) of the sample. Finally, there were 109 content descriptors from the sexual content category, appearing in 93 (15.3%) of the advertisements and trailers.

There were a total of 7,714 instances of violent content in the 607 trailers and print advertisements resulting from combining the total number of weapons, violent actions, and violent words. Violent content was found in 479 (78.9%) of the advertisements and trailers. There were 3,692 weapons shown. Table 5 is a summary of the descriptive statistics of the weapons used in the print advertisements and video trailers:

Table 4.5

Descriptive Statistics of Weapon Use in Print Ads and Trailers (n = 607)

Type of Weapon	No. of Ads Used In	Percentage of Ads Used In	No. of Weapons Used	Percentage of Total Weapons
Guns	220	36.24%	2,023	54.69%
Swords	150	24.71%	1,118	30.22%
Knives	32	5.27%	96	2.60%
Axes	37	6.10%	90	2.43%
Arrows	19	3.13%	43	1.16%
Spears	14	2.31%	44	1.19%
Artillery	38	6.26%	162	4.38%
Other	46	7.58%	123	3.33%
Total	367	60.46%	3,699	

There were 3,062 violent actions shown in the advertisements and trailers. Table 6 is a summary of the violent acts found in the print advertisements and video game trailers:

Table 4.6

Descriptive Statistics of Violent Acts in Print Ads and Trailers (n = 607)

Type of Violent Act	No. of Ads Present In	Percentage of Ads Present In	No. of Times Appearing	Percentage of Total Violent Acts
Shooting	157	25.86%	1,330	43.35%
Fighting	197	32.45%	1,081	35.23%
Stabbing	16	2.64%	77	2.51%
Cars Crashing	17	2.80%	48	1.57%
Explosions	121	19.93%	494	16.10%
Other	13	2.14%	38	1.24%
Total	343	56.51%	3,068	

Finally, there were 232 different violent words appearing in the sample, resulting in 951 instances of violent words. The most commonly appearing violent words and their derivatives were “war” (n = 121, 12.72 %), followed by “fight” (n = 100, 10.52%), and “battle” (n = 84, 8.83%).

There were 1,708 total characters in the sample. Caucasians appeared in an overwhelming number of advertisements and trailers. There were 1,134 (66.4%) Caucasian characters appearing in 432 (71.2%) of the print advertisements and trailers included in the sample. This was followed by 164 (9.6%) characters that had a race that could not be specified (“other”) appearing in 95 (15.7%) advertisements and trailers. There were 144 (8.43%) Black characters appearing in 100 (16.5%) of the advertisements and trailers. This was followed by 140 (8.2%) non-human characters in 65 (10.7%) of the sample, 92 (5.39%) Asian characters in 45 (7.4%) advertisements and trailers, and 34 (1.99%) Latino characters appeared in 21 (3.5%) of the advertisements and trailers. Of the 1,708 characters, 616 (36.1%) had a weapon.

d. Hypothesis Tests

Hypothesis one stated that the genre of the game would directly relate to the instance of weapons, violent acts, violent words, and total violent content. This was supported by ANOVAs. The total number of weapons varied significantly according to the genre, $F(5, 601) = 13.03$, $p < .001$, as did the number of violent acts, $F(5, 601) = 11.11$, $p < .001$, the number of violent words, $F(4, 601) = 13.58$, $p < .001$, and the total violent content, $F(5, 601) = 15.99$, $p < .001$. Fantasy violence contained the highest levels of weapons, violent acts, violent words, and total violent content followed by human violence, violent sports, non-violent sports, general entertainment, and educational.

Hypothesis two, which stated that the genre would be directly related to the number of content descriptors for violence, was also supported by an ANOVA. The total number of violent content descriptors varied significantly according to the genre, $F(5, 601) = 25.38$, $p < .001$. Fantasy violence contained the highest level of violent content descriptors followed by human violence, violent sports, non-violent sports, general entertainment, and educational.

Hypothesis three predicted that the rating of the game would be related to the instances of violent content found in the video game advertisements and trailers. In order to test Hypothesis three, several dependent variables were subject to an ANOVA using the rating of the game as the independent variable including: the number of weapons, number of violent acts, number of violent words, and total violent content (weapons + violent acts + violent words). This hypothesis was also supported. The number of weapons varied significantly according to the rating, $F(4, 602) = 17.83$, $p < .001$, as did the number of violent acts, $F(4, 602) = 14.84$, $p < .001$, the number of violent words, $F(4, 602) = 12.01$, $p < .001$, and the total violent content in the

advertisements and trailers, $F(4, 602) = 21.35, p < .001$. Games rated M had the most violent content, followed by games rated T, E+10, and E.

Hypothesis four stated that as the rating of video games increased, the total number of ESRB content descriptors for each game would also increase. This was also supported by an ANOVA. The total number of violent content descriptors varied significantly according to the rating of the game, $F(4, 602) = 266.62, p < .001$, with games rated M having the most content descriptors, followed by games rated T, E+10, and E.

Hypothesis five predicted that White characters would appear most often followed by Black characters, Asian characters, non-human characters and Latino characters. Descriptive statistics supported hypothesis five: White characters appeared 1,134 times, there were 144 Black characters, followed by 140 non-human characters, 92 Asian characters, and 34 Latino characters.

Hypothesis six predicted that White characters would be depicted with weapons more often than characters of other races. In order to test this hypothesis, the results for race were recoded into a number of different variables. For each of the possible five characters coded, new variables were designed for each individual race, such as white and non-white or Asian and non-Asian, so that additional statistical tests could be performed. To test this hypothesis, Pearson's correlations were run. The number of White characters was significantly related to the number of weapons ($r = 0.431, n = 607, p < .01$). The number of Black characters was also significantly related to the number of weapons ($r = 0.103, n = 607, p < .05$), as was the number of nonhuman characters ($r = 0.95, n = 607, p < .05$), and the number of Latino characters ($r = 0.086, n = 607, p < .05$). The relationship between Asian characters and the number of weapons was not significant ($r = -0.05, n = 607, p = 0.90$).

e. Research Questions

Independent samples T-Tests were used to test all four research questions. Research question one, questioned if video game trailers would have more instances of weapons than print advertisements. Independent samples T-Test revealed there was a significant difference in the scores for video game trailers ($M = 11.59$, $SD = 14.66$) and print advertisements ($M = 2.01$, $SD = 3.57$); $t(605) = 11.76$, $p < .001$. Video game trailers had more weapons than print advertisements.

Research question two, which asked whether video game trailers would have more violent acts than print advertisements was also addressed with an independent samples T-Test. There was a significant difference in the scores for video game trailers ($M = 10.59$, $SD = 11.53$) and print advertisements ($M = 0.95$, $SD = 1.76$); $t(605) = 15.39$, $p < .001$. Video game trailers were found to have more violent acts than print advertisements.

Research question three asked whether video game trailers would have more instances of violent words than print advertisements. The independent samples T-Test did not reveal any significant relationships among variables. There was not a significant difference in the scores for video game trailers ($M = 1.69$, $SD = 2.38$) and print advertisements ($M = 1.50$, $SD = 2.22$); $t(605) = 1.00$, $p = 0.15$.

Research question four asked whether video game trailers would have more instance of violent content than print advertisements. This independent samples T-Test was significant. There was a significant difference in the scores for video game trailers ($M = 23.86$, $SD = 24.98$) and print advertisements ($M = 4.46$, $SD = 5.75$); $t(605) = 14.02$, $p < .001$. Video game trailers had more instances of violent content than print advertisements.

CHAPTER 5

DISCUSSION

The results of this content analysis indicated that violence is abundant in both print video game advertisements and video game trailers. The high instance of total violent content in the entire sample (78.9%) was higher than what has been found in previous years, including: 55.8% by Scharrer (2004), 68% by Smith, Lachlan, and Tamborini (2003), and 71% by Braun and Giroux (1989). This was likely due to the inclusion of the trailers in the sample. Trailers allowed advertisers and developers more time to attract viewers and more opportunities to include sensational content. Also, there was some overlap between the trailers and print advertisements, causing some information to be repeated. If only the print advertisements were considered, 75.2% of the games included violent content. Although this was higher than previous research has found, it was likely due to the changing nature of video games, as well as a smaller sample size. The ratings of the games were related to the number of weapons, violent acts, violent words, and the total violent content. This finding corresponded to those of Scharrer (2009), and Smith et al., 2003.

The genres of video games also corresponded to the number of weapons, the number of violent acts, and the number of violent words. Scharrer (2004) found similar results that indicated fantasy violence and human violence would contain the most violent content; however, the genres used in Scharrer's study were action adventure, fantasy/odyssey, sports, puzzles, and

other. This study found that action adventure games contained the most violence followed by fantasy/odyssey.

One of the most interesting findings of this study was that although the relationship between violent words and both rating and genre were significant, the relationship between medium through which the content was delivered and the number of violent words was not. It was assumed that video game trailers would contain more violent words because they have more opportunity to use different words; they were not limited to the space available on a set number of pages. However, developers and distributors did not rely on new and exciting words to draw in possible viewers, indicating that they relied more heavily on images. This was supported by the significant relationship between the medium and the number of violent acts, violent words, and total violent content.

The General Aggression Model, Social Learning Theory, and Cultivation Theory all indicated the dangers of a media diet that is heavy in violence. These three theories indicated that consuming media riddled with violence leads to an ominous worldview and to aggressive responses to social situation and hostile learned behaviors. This study revealed that media violence is prevalent in video games advertisements and that the instances of violence in video game advertisements are continuing to rise.

The theory of “forbidden fruits” offered an interesting approach to studying video games and children. In order to apply the “forbidden fruits” theory, an understanding of video game advertisements and trailers must be developed. The current study helped to build a foundation for future research. It developed information about the nature of the content in video games and specifically about the information that could be easily accessed by children.

Piaget and others have acknowledged that social interaction plays an important role in the progression of children through the stages of development (Doise, 1996). Other researchers have noted that children spent a large amount of time playing video games (Strasburger, Wilson, & Jordan, 2009; Gentile & Walsh, 2002; Funk & Buchman, 2006). Because of this, the study of video games and children would need to continue; it is important to determine the consequences of playing video games and if video games can replace social interaction and subsequently interfere with development.

This study also contributed information that is relevant to the study of children's development as consumers. It provided a basic knowledge of the types of information children can easily access about video games. Also, the inclusion of trailers in this study offered novel information about video games and is especially relevant to children and young adults who are more likely to turn to the internet for information about products. The inclusion of video game trailers was novel and an important facet of this study. It recognized a new avenue of study and took into account the generational changes of gathering information about products.

The characters found in the advertisements conformed to trends discovered by previous research. White characters were been found to represent a majority of video game characters (e.g., Brand et al., 2003). This study found that white characters were present in 71.2% of the advertisements and trailers and that the white characters made up 66.4% of the total sample. This was slightly lower than found in previous research. However, this change was most likely attributed to changes in video game content over the past ten years. Video game characters have most likely begun to change as video games have become more mainstream. This could be an attempt to reach more minority players or an attempt to more accurately represent the population,

despite the fact that the numbers do not resemble the actual distribution of races within the population. More research is needed to better understand this trend.

The limitations of this study centered on the small sample size. Adding another magazine or finding editions from earlier years would have been useful. This would have allowed for more in-depth analysis. If the same number of issues from each year had been available, results concerning the changes over time could have been included. However, this study sought to analyze magazines that children could easily access and no additional magazines were found in libraries.

Future research should continue to focus on the content of video game advertisements and trailers. As the internet continues to grow and become available to more people, the content available to young people will become increasingly important. Analyzing the trailers available online, will help to build a body of knowledge about video games. A larger sample would be useful and could lead to a better understanding of characters, ratings, and genres. Also, repeating this content analysis at the end of 2010 would allow for comparisons to be made using the year as a grouping variable so that changes over time could be measured. Gathering data concerning the popularity and sales of each video game would have provided very interesting information. Finally, continued content analysis of the print and video advertisements and trailers of video games are important to maintain, to provide insight into games, their content, and their effects.

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APPENDIX A

List of Magazines and Months Used

GameInformer

2008—April, June, August, September, October, November, & December (7)

2009—March, April, May, June, July, August, September, October, November, & December
(10)

2010—January, February, & March (3)

Total: 20

GamePro

2007—June, July, August, September, October, & December (6)

2008—February, April, June, July, August, September, October, November, & December (9)

2009—January, February, March, April, May, July, September, October, November, &
December (10)

2010—January & February (2)

Total: 25

APPENDIX B

Sample Coding Sheet for Print Advertisements

Name of Game: _____

Ad length: _____

Mag/Month: _____

Rating: E E+10 T M AO RP

Content Descriptors:

Violent Content	Sexual Content	Language	Common Youth Problems
Fantasy Violence Intense Violence Animated Blood Blood Blood and Gore Cartoon Violence Violence Violent References Sexual Violence*	Nudity Partial Nudity Sexual Content Sexual Themes Sexual Violence* Strong Sexual Content	Language Lyrics Strong Language Strong Lyrics	Alcohol Reference Comic Mischief Crude Humor Drug Reference Real Gambling Simulated Gambling Suggestive Themes Tobacco Reference Use of Drugs Use of Alcohol Use of Tobacco Mature Humor

Genre of Game:

Fantasy Violence Human Violence General Entertainment Educational
Violent Sports Non-Violent Sports

Images:

Weapons: # _____

Type: _____

Violent Acts: # _____

Type: _____

Text:

of Violent Words: _____

Actual words: _____

Actions:

Consequences

Shown:

Death

Injury

No Harm

Results:

Advancement

Punishment

Characters:

Character 1

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other

Non-Human

Character 2

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other

Non-Human

Character 3

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other

Non-Human

Character 4

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other

Non-Human

Character 5

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other

Non-Human

APPENDIX C

Sample Coding Sheet for Trailers

Name of Game: _____

Ad length: _____

Mag/Month: _____

Rating: E E+10 T M AO RP

Content Descriptors:

Violent Content	Sexual Content	Language	Common Youth Problems
Fantasy Violence	Nudity	Language	Alcohol Reference
Intense Violence	Partial Nudity	Lyrics	Comic Mischief
Animated Blood	Sexual Content	Strong Language	Crude Humor
Blood	Sexual Themes	Strong Lyrics	Drug Reference
Blood and Gore	Sexual Violence*		Real Gambling
Cartoon Violence	Strong Sexual Content		Simulated Gambling
Violence			Suggestive Themes
Violent References			Tobacco Reference
Sexual Violence*			Use of Drugs
			Use of Alcohol
			Use of Tobacco
			Mature Humor

Genre of Game:

Fantasy Violence	Human Violence	General Entertainment	Educational
Violent Sports		Non-Violent Sports	

Images:

Weapons: # _____

Type: _____

Violent Acts: # _____

Type: _____

Text:

of Violent Words: _____

Actual words: _____

Actions:

Consequences

Shown:

Death

Injury

No Harm

Results:

Advancement

Punishment

Characters:

Character 1

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other Non-Human

Character 2

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other Non-Human

Character 3

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other Non-Human

Character 4

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other Non-Human

Character 5

Male

Female

NG

Weapon Used

Harm Inflicted

Caucasian

African American

Hispanic

Asian

Other Non-Human