

THE RELATIONSHIP BETWEEN VIOLENT VIDEO GAME USAGE AND AGGRESSIVE BEHAVIOR AMONG ADOLESCENTS

By

SYTHANYA A

Reg.no: RA2322028010010

Under the Guidance of

Mr. Krishna Moorthy - Assistant Professor Department of
Clinical Psychology

SRM Medical College Hospital and Research Centre SRM
Institute of Science and Technology, Kattankulathur

ABSTRACT

The study examined the relationship between violent video game usage and aggressive behavior among adolescents in South India. With growing concerns regarding the psychological effects of video games, particularly violent content, this research aims to assess the relationship between video game usage and aggression behavior. The study employed a correlational design and utilized self-report measures to assess video game usage (Video Game Questionnaire), aggression (Buss-Perry Aggression Scale) among a sample of 132 adolescents from South India. The findings reveal a positive correlation between violent video game usage and aggressive behavior suggesting that higher the usage of video game is associated with higher expression of aggressive behavior among adolescents. Additionally, there is a significant gender difference is observed in video game usage and aggressive behavior. The study findings highlight the potential psychological impact of video game exposure on adolescents' behavior and underscore the importance of further research and policy consideration in managing media consumption among children.

Keywords: Video game usage, Aggression, Adolescents, Behavioral outcomes.

Chapter 1

Introduction

Adolescence is a term obtained from the Latin word “adolescere” refers "to grow up". This phase, which includes both mental and physical development, signifies the transition from puberty to maturity (Adelson, 2012). Adolescence might have rapid changes in the emotional, psychological and social facets of life as this is a crucial period of development, growth and identity formation. Individuals are more susceptible to external exposure like social media. Recent studies reveal that digital media, specifically video games, has become the main leisure activity for the adolescents (Dill & Anderson, 2000). A person between the ages of 13 and 19 is considered an adolescent, in accordance with Erik Erikson's phases of human development (Agarwal, 2010).

A critical stage of human development that begins from childhood and lasts adulthood is adolescence (ages 10-19), sees over half of the global adolescent population residing in Asia, with South Asia alone harboring approximately 340 million adolescents (Sathiyamoorthy et al., 2017).

Adolescents are a substantial demographic, constituting between 35% and 50% of the population in low- to middle-income countries (Malhotra & Patra, 2014).

According to World Health Organization, adolescence is the second decade of life, and it is a time of significant social, psychological and physical changes. During which individuals experience advanced cognitive development, identity formation, evolving social relationships, and increasing autonomy (Naik et al., 2020; Singh et al., 2019).

Adolescence as a Period of Multiple Transitions

Adolescence, in its broadest context, denotes the period between the ages 12 to 18 that marks the transfer from childhood to adulthood, which roughly corresponds to the interval between the onset of puberty and the attainment of independence from parental or guardian control. Puberty, a biological process marked by an increase in gonadal and adrenal hormones that leads to several changes in fat and muscle distribution, also the formation of sexual maturity traits (Jaworska & MacQueen, 2015).

Teenage is a period where transitions in domains like physical, social, emotional, psychological and personality. During this time, young individuals undergo many changes, including their bodies and minds, readjustments on an individual, family and social level (Baena et al., 2021; Rubinstein, 1980).

The Role of Media in Adolescent Development

Adolescence often turns to social media as a space to explore their sense of self, but constant comparisons especially to those who appear more successful or attractive can negatively impact their self-confidence and lead to feelings of inferiority. Increased screen time tends to make their self-worth more dependent on external feedback, such as likes and comments, encouraging a reliance on digital validation. Although adolescents frequently try out various online personas, this experimentation doesn't necessarily harm their self-esteem. The research points to the complex nature of social media, which can both aid in personal identity growth and contribute to emotional vulnerabilities, underlining the importance of conscious and balanced use (Pazer, S.,2024). Digital platform is an essential component of teenage development because it provides

new avenues for socializing, emotional expression, and identity exploration and creation. (Subrahmanyam & Šmahel, 2011).

Positive Aspects of Media Consumption:

Educational content: Video games and any other means of social platform can offer greater exposure towards academic aspects as it has a lot of knowledgeable content. For example, it helps in individual's development with respect to cognitive abilities, problem-solving skills, and spatial awareness, creativity and socialization (Granic et al., 2014).

Social contact: Adolescents engaging in media usage tend to develop better interpersonal and social relationships through video games, especially multiplayer ones. Recent research states that online gaming communities help people make friends all around the world which creates a sense of belongingness, especially for teenagers who feel socially alienated (Cole & Griffiths, 2007).

Cultural exposure: Adolescents develops empathy and become socially responsible when being exposed to a different content that fosters multiple perspective and a sense of deeper understanding about social concerns. Adolescents who have an exposure to use media have the higher chance to learn about many cultures, concepts, and points of view (Scharrer, 2012).

Negative Aspects of Media Consumption:

Decreased Physical Activity: Higher exposure to media on regular basis, especially while playing video games, leads to a decrease in physical activity. This is an alarm considering the necessities of physical activity, which is required for proper growth and development during adolescence period/ stage of life. Long period of screen time has been associated with decreased physical fitness and increased obesity rates (LeBlanc et al., 2012).

Sleep Disruption: Excessive screen time, particularly right before bed, lead to disturbed sleep cycles. Teenagers have a difficulty falling asleep because of the impacts of blue light from screens interferes with the creation of melatonin. Simultaneously reduced/ lack of sleep is interconnected with mood swings, cognitive impairments, and a higher risk of mental health issues (LeBourgeois et al., 2017).

Mental Health Issues: Adolescence who use social media especially video games for prolonged period, has been detrimental effects on mental health. They tend to face pressure of social comparison cause anxiety, despair, dependency and low self-esteem within themselves and others (Twenge et al.,2018). Further problems like cyberbullying are in online environments (Kowalski & Limber, 2013).

Exposure to Inappropriate Content: Adolescents might be exposed to offensive materials and content, including violent video games, sexual content, or extreme viewpoints. If they have unrestricted access to such material, their behaviour and attitudes may be impacted. They might become more violent, begin to minimise violence or adopt skewed perspectives on sex and relationship (AIDahoul et al., 2024).

Impacts on Social skills and Interpersonal relationship

Adolescent's capacity for in-person (one on one) communication is affected due to the usage of media, despite it creates a new possibility for online contacts. Teenagers who prone using media become introvert, socially isolated, spending more time online and less time with friends and family in person (Kuss & Griffiths, 2017). The establishment of genuine, offline interactions may be hampered by the romanticized depictions of life that social media platforms frequently provide, which can result in skewed impressions of reality (Fardouly et al., 2015).

Balancing media consumption and adolescent's development

Adolescents have wide range of benefit from the usage of media. On the other hand, carefully reducing potential harm from the usage should be done, practices such as limiting/ reducing screen time, motivating individual to involve in physical activity and building social interactions (Levine et al., 2007). Parents, teachers, and other caregivers should help adolescence balance their screen time thereby to reduce the harmful impacts of media use. Also, encouraging them to develop critical thinking and assisting towards being responsible use of the digital environment (Levine et al., 2007).

Common problems of Adolescence:

Most of the young individuals/adolescence have the probability to successfully navigate the biological, cognitive, emotional, and social changes that arises with puberty. However, some adolescences are susceptible to issues which includes (Brooks et al., 2012):

- Drug or alcohol abuse
- Depression or suicidal thoughts
- Aggressive behavior
- Anxiety, stress, or sleep difficulties
- Eating disorders
- Risky sexual behavior

Adolescence has consistently been perceived as a period of prevalent risk-taking behaviors. There is a clear likelihood that a person would engage in violent or aggressive behavior during their middle and high school years (Alekseeva & Prokopenko, 2015). Given its correlation with negative consequences, including substance misuse, unprotected sexual activity and an increased risk of

injury and death, this leads to propensity for risk-taking is a significant worry (Somerville et al., 2009). Research found that regarding adolescent and aggressive behaviors during the previous 15 years. Aggression in childhood is a reliable predictor of future violent behavior, and evidence indicates that it also influences the nature of subsequent violent conduct. Aggression exhibited a stronger correlation with interpersonal violence. Furthermore, teacher-rated hostility at age 13 for both genders correlated favorably with both the severity and frequency of criminal behavior (Stattin & Magnusson, 1989).

In general, adolescents require complementary activities that support their healthy development, prevent health issues or problematic behavior and address them when they repeatedly occurred. To manage this vulnerability, they require treatments, which combines knowledge, safe and encouraging environments; easily accessible health and mental health counselling services (Diaz et al., 2005)

Additionally, although adolescents exhibit several shared traits, it is important to recognize that individual variations (such as age, gender, and parental support) must be considered. Health services aimed at youth need to be easily accessible, based on evidence, rooted in human rights, tailored to specific age groups, and responsive to gender. Young people should also be supported in acquiring the life skills necessary to lessen their exposure to health risks, and they need to be empowered to advocate for their own health (Jakobsson et al., 2024; Shrivastava et al., 2016).

Video games

Video games involve the interaction between the user/player who interface with a device which generate visual feedback. These games usually played in an arcade, personal computer, mobile phones. (*APA Dictionary of Psychology*, n.d.). The term "video game" generally refers to any genre of game that is played on hardware that has integrated into electronic gadgets. Games have an interactive component and outputs the player's actions to a display (*Encyclopedia of Video Games*, pp.

3–7). The attitudes and viewpoints of adolescents have a more significant influence because of the swift expansion of mass media globally. With video games being easily accessible and affordable, they have certainly made a favorable impact on Indian youth.

The initial generation of video games consisted solely of basic geometric shapes that players controlled to pass the time. Every new generation of games incorporates the latest technologies, resulting in increasingly impressive graphics and realism to captivate players. Over the past decade, the duration of time teenagers dedicate to playing video games has consistently risen, with kids aged eleven to fourteen spending more time gaming than any other age group (Casiano et al., 2012). With the advancement of these new technologies, there is an increase in the depiction of more realistic violent actions and scenarios within a visual framework. Each generation's viewpoint on video games evolves alongside their strategies and criteria, leading individuals to invest more time and money into them. A study revealed that children between the ages of 10 and 18 spend an average of seven-and-a-half hours per day engaging with entertainment media (Kaiser Family Foundation, 2010).

Video game is essentially a virtual reality experience. Gaming habit can become a precipitating factor at least over a period of two years or more resulting in acting out more aggressive (Carry, 2013). Human aggression suggests that continuous exposure to antisocial

behavior can lead to a rise in aggressive actions and a decline in helpful behaviors in real-life situations (Anderson et al., 2010). The organization and design of video games are intended to be entertaining, challenging, and at times educational; however, a significant portion of them features violent content. Research analyzing video game content reveals that 89% of games have some form of violent material (Gentile et al., 2004), with nearly half of these games displaying serious violence directed at other game characters (Dietz et al., 1998). Therefore, among the games being purchased, majority of them contain violence. Engaging in violent video games may lead certain adolescents to exhibit increased aggression and hostility, especially in those who tend to be less agreeable, conscientious, and more easily angered. However, for some individuals, playing video games provides a chance to cultivate new abilities and enhance their social skills (Dietz et al., 1998).

Video game Habit

Video gaming is considered as behavioral addiction; the pattern and habit is characterized by the frequency of how much gaming interferes daily life. Specifically, among adolescents the obsession over video games grew more frequent with the media explosion. Television, Laptops, and mobile phones are common platforms where video games transcend; they are predominantly found throughout social media platforms (Walsh, 2000). Despite gender biases male and female players alike towards the experiences for the exposure to these kind of video games. Age and gender affect gaming practices. While older guys play roughly 3.5 hours a week, younger lads (8–13) spend almost 7.5 hours gaming. Gamers have varying tastes in genres; whereas casual players choose puzzles and card games, serious players enjoy action and shooter games. While elderly women tend toward puzzle and card games, men typically like strategy, sports, and action games (González-González et al., 2022).

There are variety of games available but instructive games which guides an individual towards lack of enjoyment and makes them less well-known. (*Who Plays What? Understanding Gaming Demographics in 2024*, n.d.). Among the most sold and used are violent video games; research reveal that many teenagers like them above peaceful substitutes (LPC, 2022).

A Study reveals that individuals who play video games exhibit development of faster learning capacity as compared to others. It enlightens that enhanced learning, problem solving skills and cognition for novel tasks through video games (Zhang et al., 2021).

Categories of Violent Video Games

Video games are categorized into different types depending on their gameplay and classification. They include:

Action games

It is the most popular and basic form of video games, these are fun bundled, exciting and realistic. In action games, players must utilize a range of attributes such as weapons, quick reflexes, and unique moves that are built into the game to defeat their adversaries and progress towards victory. Action games come in various formats, including fighting games, puzzle games, and shooting games (Adams, 2014).

Fighting games

The majority of fighting games includes the one-on-one fight where a person has to use the game fighting skills to beat the opponent. The fighting games leads the player to learn fighting moves and draws the brutality of the fighting. Fighting games requires immense amount of strategy and planning from the player to perform which moves at the appropriate moment.

Therefore, these games usually consume a considerable amount of time and skill from the player in order to master all of the moves as a fighter (Dunn, 2012).

Shooter games

Shooter games are the most successful and widely recognized game genres across world as these are the fast-paced action making the player enjoy the immersive experience with intense scenarios. Also, games include mechanisms like weapons and other instruments to eliminate enemies. One category of shooting games is the first-person shooter, such as Doom, where players experience the game from a perspective that allows them to utilize various weapons and new gear to conquer adversaries (Wolf & Perron, 2014). Shooting games place the player in the role of the hero, emphasizing gunplay and action. Throughout the game, players acquire increasingly powerful weapons and face stronger enemies, creating an exciting and rewarding experience. Modern technologies have also incorporated historical settings allowing the players to take on the role of soldiers in major conflict settings like a war zone. Notable examples include Call of duty, Silent hill, free fire (Wolf & Perron, 2014).

Strategy and Real time strategy games

Strategy games aim to test a player's critical thinking and planning skills. This genre is categorized into two primary types are Real-time strategy (RTS) and Turn-based strategy (TBS). Among the two, RTS games are the more popular choice and involve ongoing action where players must make swift decisions that lead to immediate outcomes, necessitating quick thinking and prompt execution for success (*Wayback Machine*, n.d.).

Racing

Racing games are the thrilling genre where players compete against opponents in high-speed races across various tracks and environments. These games offer a diverse range of race types, from street racing to off-road challenges, each requiring different skills and strategies. A key appeal of racing games is the progression system, where winning races allows players to upgrade their vehicles, unlock new cars and access more challenging tracks. Racing games also incorporates elements of adventure and competition which engages the player through dynamic gameplay and immersive settings. Popular examples of racing games include Need for speed which focuses on high-speed street racing, Temple run, and Mario kart known for its fun and competitive running with power ups, reflex driven and fast paced essence of game play (Salter, 2014).

Survival Horror games (Satanic games)

Survival horror games are designed to instill fear in players by infusing classic horror elements such as eerie atmosphere, themes of death, supernatural creatures and graphic content depiction of blood and gore (Fahs, 2022). This games features sense of vulnerability often created by limiting resources such as ammunition that shows weapons, forces players to make precise decision about combat and survival (Fahs, 2022). The main examples of horror games were found to be Resident evil and Silent hill. These games introduced mechanics such as fixed camera angles, puzzle solving elements, unsettled audio design. Over a period of time, survival horror has expanded to include more action-oriented game play but the core emphasis on fear, resource management, strategies to escape and psychological horror remains central to experience (Fahs, 2022).

A conceptual framework for understanding the impacts of violent content in video games.

Anderson and his team formulated the General Aggression Model in 2000 to elucidate how engagement with violent video games can impact aggressive thoughts, attitudes, and behaviors. This framework describes a step-by-step procedure in which both personal traits, such as an individual's aggressive personality and external factors like playing violent video games or being provoked, interact to shape aggressive behavior. These influences affect a person's internal state, including emotions, thoughts and arousal level (Anderson & Dill, 2000). This ultimately impacts their decision-making ability leading to aggressive actions through their behavior. The General Aggression Model (GAM) differentiates between the immediate and long-lasting impacts of violent video game exposure on players. In the short term, GAM posits that individual traits and environmental factors can affect a player's immediate mental state. As stated by Anderson and Dill (2000), brief exposure to violent video games can escalate aggression by stimulating aggressive thoughts, intensifying hostile emotions, or increasing arousal levels. Consequently, individuals with a predisposition towards hostility may experience a stronger impact, as aggressive thoughts and feelings can be more readily activated in them (Anderson & Dill, 2000).

Regarding prolonged exposure, GAM suggests that continuous engagement with violent material may result in the formation and strengthening of cognitive patterns associated with aggression. Over time, players may become more vigilant for threats (hostile attribution bias), more likely to resort to aggression, and more inclined to expect aggressive behavior from others. They

may also develop more accepting attitudes toward violence and view it as an effective way to handle conflicts. Prolonged exposure to violent imagery is believed to contribute to desensitization, making players less emotionally responsive to violence (Anderson & Dill, 2000). Additionally, those who consistently engage with violent video games may experience changes in their overall outlook, perception, attitudes, and behavior, becoming more aggressive over time. While trait hostility may initially act as a moderating factor in the short term, in the long run, it may shift into a mediating role, meaning that extended gameplay could increase a player's inherent aggression levels, further influencing their response to violent content (Anderson & Dill, 2000).

Tompkins (2003) extended exposure to violent media can adversely impact children, potentially resulting in various troubling effects. As time goes on, children may become numb to the distress and suffering of others, which could decrease their ability to empathize. Additionally, constant exposure to violent content can increase their fear and anxiety, causing them to perceive the world as a more dangerous place than it is. Furthermore, they may be more inclined to display aggressive or harmful behavior toward others, as repeated exposure to violence can normalize such actions in their minds.

The Energization Theory of motivation and emotion suggests that people exert the most effort and energy when faced with a challenging yet achievable task that offers a reward upon success. Video games serve as a prime example of this concept, as they present players with engaging challenges that keep them motivated (Brehm et al., 1983).

Gentile describes video games as “exemplary teachers,” highlighting seven key elements that make them highly effective learning tools (Gentile & Stone, 2005):

1. Clear goals with adjustable difficulty levels to match players skill (Gentile & Lalley, 2003)
2. Active learning through practice and feedback, helping players refine their skills (Bahrack et al., 1984)
3. Mastery through repetition (over-learning), ensuring players can progress and excel (Bloom, 1986)
4. Both extrinsic and intrinsic motivation, as rewards and personal satisfaction drive engagement (Bandura, 1977).
5. Increasing difficulty across levels, allowing players to apply previous knowledge to new challenges (Gentile & Lalley, 2003).
6. An optimal balance of intensive (massed) and spaced (distributed) practice, improving retention and skill development (Ellis & Hunt, 1993)
7. Transferable learning, where skills acquired in the game can be applied to real-world problems and different contexts (Plass et al., 2015)

As early as the 1980s, researchers began investigating whether video games could be addictive. Studies found that players were more engaged and experienced greater excitement and immersion when playing technologically advanced games with realistic graphics. This suggests that enhanced visual and interactive elements increase a player's sense of presence and involvement (Ivory and Kalyanaraman, 2007).

Research on video and computer gaming has identified both positive and negative effects on players. A significant portion of parents (52%) believe that video games play a beneficial role in their children's lives. Video games can enhance problem-solving abilities, improve hand-eye coordination, boost spatial awareness, and refine motor skills while also promoting social engagement with peers beyond the classroom. Numerous games act as powerful educational

resources, aiding players in cultivating strategic thinking and creativity, while also offering a means to alleviate stress and combat boredom (Ivory and Kalyanaraman, 2007).

Despite the advantages, too much gaming can result in harmful effects, especially gaming addiction. When individuals become excessively engaged in video games, it can disrupt their daily duties, social relationships, and general well-being. Although video games provide cognitive and social benefits, it is crucial to keep a healthy balance to avoid excessive reliance (Bowman & Tamborini, 2012).

Four dimensions on which video game can have effects (Gentile & Stone, 2005)

Amount

The duration of video game playing has been associated with different outcomes, including health concerns like obesity and musculoskeletal issues, as well as impacts on academic achievement. Studies indicate that the time dedicated to gaming has unique effects that are separate from other contributing factors (Gentile & Stone, 2005). Conversely, the genre of video games had a notable impact on behavioral results. The research indicated that engaging in violent video games was directly associated with heightened aggression, yet it did not predict diminished academic performance. This implies that while excessive gaming duration may influence educational success, the nature of the games affects social and behavioral tendencies. It is essential to acknowledge that moderate and well-balanced gaming can offer cognitive and social advantages, including enhanced problem-solving skills, improved hand-eye coordination, and team collaboration abilities (Gentile & Stone, 2005).

Content

Research focuses on how the game content influences the players the effects, amount of learning and health related aspects related to games are designed to prompt certain conditions. Educational video games have been shown many positive roles among learning by helping players improve their skills such as reading, math and problem-solving ability. These games enhance cognitive development, also some virtual reality programs have proven effective in reducing phobias and gradually overcoming fears. The overall impacts of video games depend largely on their content and purpose as it influences behavior in ways that were not originally intended by developers. Games with violent or harmful content may lead to negative consequences specifically when play excessively (Gentile & Stone, 2005).

Form

Playing a video game that require 3D navigation has been linked to improved 3D mental visualization skills, which is valuable in fields like engineering, medicine and architecture. Research studies found that video games can significantly impact real world perceptions and skills. A study reveals that surgeons who demonstrate strong gaming skills has better performance in advanced laparoscopic surgery. This suggests that hand eye coordination, spatial awareness, precision in gaming can translate their professional skills. As a player one must analyze situations, plan and adjust to unexpected challenges which improve their reliable cognitive flexibility, working memory and applying different pieces of information simultaneously. Gamers tend to transfer skills into real time scenarios (Gentile & Stone, 2005).

Mechanics

The mechanical inputs and output devices used to play video games can influence players responses for example, using a steering wheel and pedals in driving simulation game is likely to improve real world driving skills. Virtual reality and motion-controlled gaming like VR headsets, motion sensors can create deeper level of immersion. The more realistic portrayals of violence showcase that heightened aggression, fear reactions and desensitization. These effects are particularly noticeable among adolescences who have average ability to differentiate between fictional and real-world violence (Gentile & Stone, 2005).

AGGRESSION

Aggression is a complex phenomenon encompassing various forms of hostile and destructive behavior. Psychological dictionary defines aggression as “behavior that results in harm to or destruction or defeat of others” (Vendon Bos, 2007). In comparison, violence is defined as “the demonstration of anger and aggression aimed at harming or destroying individuals or property using physical force, fervor, or strong emotions.” (Vendon Bos, 2007). In essence, aggression includes hostile, destructive and violent actions with primary aim of causing harm.

Loeber and Hay (1997) further categorizes aggression as a behavioral pattern that either causes or threatens physical harm to others. Initially a pleasurable instinct in early life, which only becomes regulated through social learning and upbringings (Symonds, 1946).

Aggression is classified based on the stimulus situations that provokes it, with different experimental conditions affecting various forms of aggression differently (Moyer, 1968). Aggression refers to any action intended to cause physical or psychological harm to another person, or to damage, destroy, or take someone else's belongings (Allen & Anderson, 2017b). This definition carries several important implications as follows: -

- Aggression is a behavior that can be seen, as it includes actions that others can perceive (Allen & Anderson, 2017b).
- Aggression carries a hostile intention, setting it apart from unintentional acts that could also lead to harm (Allen & Anderson, 2017b).
- Aggression encompasses both psychological and physical aspects, going beyond just physical violence (Allen & Anderson, 2017b).
- Aggression can be aimed at a person, an object, an animal, or even property (Allen & Anderson, 2017b).

From the viewpoints of psychology and behavioral science, aggression is defined as actions among individuals of the same species aimed at causing harm or suffering. In contrast, predatory or defensive actions between different species are typically not categorized as aggression (Allen & Anderson, 2017b).

Forms of Aggression

Hostile Aggression

Hostile aggression takes place when the main objective is to hurt another individual, motivated by anger or strong emotional turmoil. The intent of the aggressor is to cause pain or injury in reaction to a perceived threat, provocation, or insult (Brosbe, 2011).

Instrumental Aggression

Unlike hostile aggression, this is goal oriented rather than driven by anger alone. In this the intent is still harming someone but the aggression serves to achieve a separate objective such as money, power, gaining identity. For example, a child may push another child not put of anger but to take the possession of toy (Nickerson, 2023).

Physical Aggression

A direct and overt form of aggression that involves bodily harm or physical violence. It includes actions such as punching, kicking, stabbing, shooting, bullying and destruction of property. It's associated with hostile aggression as seen in criminal behavior or violent sport competition (Kaye & Erdley, 2011).

Verbal Aggression

This form of aggression targets a person emotionally and psychologically through insults, threats, sarcasm, swearing. Verbal aggression can cause significant psychological harm leads to anxiety, stress and emotional distress. In many cases, it serves as a precursor to physical aggression increase in conflicts (Sameer and Jamia, 2007).

Emotional Aggression

This form of aggression is purely impulsive occurs in heat of the moments, outbursts and road rage where the harm is infused for their own sake. It is often uncontrolled and emotionally

charged, this leads to how individual react without considering the consequences (Brehm, Kassin & Fein, 2005).

Relational Aggression

This form of aggression is more subtle and indirect form of aggression primarily focuses on damaging someone's relationship or social standing. This includes behaviors of spreading rumors, blackmailing, threats to end friendships, social exclusion. Predominantly observed in school environment, workplace, social groups particularly among adolescence and young adults (Brehm, Kassin & Fein, 2005).

Aggression takes place in different forms depending on situational, personality traits, and social influences. Understanding this helps in addressing aggression effectively and implementing strategies to mitigate its negative consequences because individuals display combination of aggressive behavior while others rely on personal motives (Liu & Evans, 2012b).

Moyer Classification

Kenneth E. Moyer's 1968 work, "Kinds of aggression and its physiological basis," offers an initial and significant categorization of seven distinct types of aggression, viewed through a biological and evolutionary lens.

1. **Predatory aggression:** This form of aggression occurs when a predator hunts and attacks its prey for survival. It is an instinctual behavior seen among carnivorous animals and some humans who are engaged in hunting or strategic violent acts (Moyer, 1971).
2. **Inter-male aggression:** This form of aggression arises from competition between males of same species. It is commonly observed in the animal kingdom when males fight over territory, dominance, mating and access to resources (Moyer, 1971).
3. **Fear-induced aggression:** This occurs when a person senses a threat and tries to escape from danger, exhibiting aggression linked to their attempts to avoid a perceived threat. It is a defensive reaction where the frightened individual strikes out when they see no way to escape. This behavior can be observed in both humans and animals placed under severe stress or in life-threatening circumstances (Moyer, 1971).
4. **Irritable aggression:** Frustration frequently prompts these reactions; irritable aggression happens when a person channels their anger towards a specific target, resulting from frustration and aimed at an accessible target. This behavior can lead to exhaustion and extended discomfort (Moyer, 1971).
5. **Territorial aggression:** This sort of aggression is associated with defending others for their personal gain and space, usually happens to protect their habitat. This behavior manifests in defending personal belongings, ideological boundaries or homes. defense of a fixed area against intruders (Moyer, 1971).
6. **Maternal aggression:** This form of aggression is driven by a strong protective instinct. Parents sometimes exhibit aggressive behaviors to shields their offspring from threats or harms (Moyer, 1971).
7. **Instrumental aggression:** This form of aggression is goal driven and often premeditated involves gaining powers, resources and advantages. Frequently seen in competitive environments and criminal behavior (Moyer, 1971).

Theoretical model on Aggression

Each theory provides important perspectives on the origins and characteristics of aggressive behavior. Although they share notable similarities, the theories often contain overlapping ideas that resulted in initial attempts to integrate them into a more unified model (Anderson et al., 1995, 1996a). They are called Domain Specific Theories of Aggression are as follows:

Cognitive Neo Association

Aversive events such as frustrations, provocations, loud sounds, uncomfortable temperatures, and bad smells can lead to negative emotional states. These adverse feelings subsequently activate a range of thoughts, memories, physical expressions, and bodily reactions associated with both fight and flight instincts. The connection to fight responses generally results in feelings of anger, whereas

the connection to flight responses usually brings about feelings of fear (Collins & Loftus, 1975). Furthermore, signals that occur during these unpleasant experiences can become linked to the events themselves, as well as to the thoughts and emotions they provoke.

In the context of cognitive neo-association theory, aggressive thoughts, emotions, and behavior patterns are linked within our memory (Berkowitz, 1993). When a specific concept is triggered, this activation spreads to associated concepts, which also boosts their activation. For instance, the idea of a “gun” is connected to various aggression-related notions, like “shoot” or “harm.” Concepts that share similar meanings (such as “hurt” and “harm”) and those that are often activated together (for example, “shoot” and “gun”) build strong associations. Consequently, triggering one concept can activate related ones, thereby affecting the thoughts and actions connected to aggression (Anderson et al., 1998)

Excitation Transfer Theory

The excitation transfer theory posits that physiological arousal decreases gradually over time. When two stimulating events happen in quick succession, the leftover arousal from the first event might be wrongly associated with the second. If the second event is related to anger, the residual arousal can enhance the individual's feelings of anger. Moreover, this theory suggests that anger can linger for a long time if a person consciously links their increased arousal to feelings of anger. Even after the physiological arousal subsides, individuals may remain predisposed to aggression if they continue to view themselves as angry (Zillmann, 2008).

Social Learning Theory

Social learning theories propose that individuals develop aggressive behavior similarly to how they learn other intricate social behaviors, either through personal experiences or by observing the actions of others. This theory underscores the process of how people learn aggression through watching and emulating others, stressing the importance of observational learning. It also offers important perspectives on the beliefs and expectations that influence social interactions (Mischel, 1973, 1999 and Mischel & Shoda, 1995; Bandura, 1983, 2001). Moreover, social learning theory elucidates the development of expectations and the ways individuals make sense of social interactions. This perspective is particularly valuable for comprehending the acquisition of aggressive behaviors and for clarifying instrumental aggression.

Social Interaction Theory

Social interaction theory posits that aggressive or coercive actions function as a method of social influence, wherein one person employs aggression to change another person's behavior. This theory suggests that people make choices based on the expected benefits of reaching their goals. It illustrates that aggressive actions often serve a larger purpose beyond mere hostility. Even aggressive behavior can have a rational underpinning, such as discouraging future provocations by penalizing the wrongdoer (Baumeister et al., 1996; Bushman & Baumeister, 1998). This has motives including gaining something valuable (eg: money, goods) seeking punishment for perceived injustices such as toughness or competence. Furthermore, social interaction theory helps explain the link between aggression and threat against high self-esteem and narcissism (Tedeschi & Felson, 1994)

Script Theory

Huesmann (1986, 1998) proposed that children who are exposed to violent media content tend to form aggressive behavioral scripts. These scripts function as a mental framework that guides their responses in specific situations (Schank & Abelson, 1977 and Abelson, 1981). A person under certain scenario selects an appropriate script and adopts the role once learned, tend to store, recall and apply in appropriate situation, thus shaping the behavior. This concept provides a more detailed perspective on social learning emphasizing on how repeated exposure to violence reinforces the mental schema.

A child who has repeatedly seen conflicts being resolved with violence on television or any other media platform to adopt a script that normalize this behavior, making it readily accessible response. This theory helps generating scripts which is deeply ingrained patterns of thoughts, it connects the ideas, goals and action planning occurring in memory (Marsh et al., 1998). Social learning theory becomes a habitual streamline for complex decision making and behavioral processes.

Drive Theories of Aggression

Drive theories of aggression suggest that it is a stem from an internal impulse driven by an innate need. The most well-known theory is the “frustration-aggression hypothesis”, introduced by John Dollard and his associates at Yale. According to this theory, when a person’s goal directed behavior is blocked or disrupted, their motivation for aggression increases. It establishes a direct cause and effect relationship, where the frustration serves as the trigger and resulting as aggressive behavior (Steinberg, 2007).

Study conducted by Green and Berkowitz, state that frustration is not only the sole factor contributing to aggression indicates that frustration is a weak instigator of aggression. Instead, the environmental cues available can significantly influence the aggressive behavior. These findings led to the refinement of the original hypothesis by including the emotional states and circumstantial factors. Therefore, frustration plays a vital role in aggression not automatically but rather interacts with other elements that shapes the response (Steinberg, 2007).

Frustration-Aggression hypothesis by Leonard Berkowitz

Berkowitz’s suggests that overt aggression results from the interaction between environmental frustrations, an individual's psychological traits and situational cues could trigger the aggression. However, this aggression manifests as an overt behavior depends upon the intensity of impulse. According to this theory it elicits the responses (emotional responses). The combination of anger and pre-existing aggressive tendencies results in an increased drive to behave aggressively. When the drive to aggress surpasses a certain level, the individual is more likely to engage in aggressive actions. Conversely, if the inclination to aggress stays below that level, aggression will manifest in response to specific triggers that prompt aggressive behavior. This perspective highlights the complexity of aggression, stating that it will be accompanied by internal tendencies and external factors (Berkowitz,1994).

Situational Risk factors for Aggression and Violence

The “General Aggression Model” (GAM), created by Anderson and Bushman, explains the ways in which different psychological and environmental influences play a role in aggressive behavior. It states that both the long-term personality traits and immediate situational traits interact to provoke and amplify aggression. Individual characteristics for example as a male having higher level of trait anger, personal values, beliefs, goals and learned behavioral scripts plays a vital role in shaping one’s predisposition towards aggression (Anderson & Bushman, 2002).

General Aggression Model categorizes six key situational factors which feeds as a contributing factor for aggression especially among adolescents (Allen & Anderson, 2017)

1. **Provocation** includes insults, physical aggression which interferes with personal goal which trigger aggressive response.
2. **Frustration** occurs when a person’s goal is blocked, and they tend to perceive someone else is responsible for their failure.
3. **Pain & Discomfort** includes the aversive experiences like extreme temperature, loud noises or any physical discomforts which increases the threshold of aggressive response.
4. **Substance use** involves the drugs and alcohol known to intensify reactions to frustration and provocation.
5. **Incentives** refers to factors that increases the perceived benefits of aggressive behavior compared to its consequences.
6. **Aggressive cues** consist of the availability of weapons or exposure to violent video games and movie content, which heightens aggressive reactions and actions.

Studies indicate that portrayals of violence on media platforms have moderate to significant impacts on aggressive behavior in real-life situations, with even more pronounced effects observed in controlled lab settings. This suggest its contribution to aggressive tendencies when combine to situational triggers is identified by GAM (Allen & Anderson, 2017)

Justification of the study

In this world of rapidly boosting competition, speedy changes of technology, adolescents spend time in playing video games that adversely kill their time that they have to utilize in studies and other aspects of life. Adolescent boys and girls spend considerable amount of time in playing video games (Greenburg et al., 2010 and Hamlen, 2010). Video games represent a distinct entertainment medium as they invite players to immerse themselves in the game's narrative. While video games have existed for over three decades, the advanced titles available today demand players' continuous focus. Individuals connect with the gameplay on a more profound physical and emotional level compared to how viewers engage with films or television shows. This widely embraced medium can have both beneficial and adverse effects on young people. One of the most recognized "positive" effects is that video games can enhance children's manual coordination and computer skills. Advancements in technology also yield improved graphics, offering a more "realistic" virtual experience that captivates players and encourages them to invest more time in gaming.

Constant engagement with video games has become a significant issue, with some researchers indicating that impressionable young people might be influenced toward violence by the aggressive fantasy environments of the games they play. Studies propose that violent video games can impact aggressive conduct, emotional responses, and thought processes related to aggression. Essentially, adolescents assimilate a bundle of knowledge related to aggressive behaviors and

attitudes. Additionally, research has shown that video games can enhance visual perception and may aid children in developing skills for managing tasks, especially in terms of multi-tasking.

Among South Indian linguistics, understanding the interlink between how technologies especially violent video games shapes behavior, aggressive tendencies require investigations. Predominant research on video game usage centers on western or pan India level. But with respect to southern regions of India the cultural, educational and socio-economic differences seeks in-depth study to clarify whether violent video game usage cause aggressiveness among adolescences.

CHAPTER 2 REVIEW OF LITERATURE

This study seeks to analyse earlier research conducted on video games and aggressive behaviour in adolescents to achieve a comprehensive understanding of these topics, the feasibility and practicality of the study, and any remaining questions or gaps in the research. The subsequent literature review presents prior studies related to the variables of the current investigation.

Studies on Video games

Ting et al. researched the psychological impact of role-playing games and violent video games among young adults which explores how gaming correlates with mental health and it's mediating effects, involving 302 participants. The study used "Depression Anxiety Stress Scales" (DASS-21), "General Health Questionnaire" (GHQ), Gaming habits survey. It utilizes cross-sectional survey method and correlational method for data analyzes. The findings from research highlights the nature of video games and gaming methods has impacts on both positive and negative effects on mental and physical health.

Ruiz-Fernandez et al. (2021) investigated the role of psychological engagement in the relationship between violent video game exposure and child to parent violence involving adolescents aged 13 to 19, 628 participants. The study includes "Game engagement questionnaire", child to parent aggression questionnaire. The structural equation modeling was employed to explore the direct and indirect relationship between the variables for data analyzes. The findings suggest that violent video game exposure was linked to lower rate of Child parent

violence and increase in high psychological engagement specifically flow and absorption was associated with increased child parent violence.

Vasimalairaja, M. (2022) The study examined how educational video games can improve critical thinking and mathematical reasoning in a group of 60 middle school students. They employed a pre-test, post-test, and delayed post-test experimental design to assess the impact of the games. For the intervention of educational video games, they used custom-developed scale which measures students critical thinking and reasoning and 25 desktop computers. They used both descriptive and parametric methods to analyze the data. The result demonstrates a significant development of critical thinking and reasoning particularly among girls.

Miedzobrodzka et al. (2022) examined the ability to recognize emotions and the capacity for inhibitory control among adolescent males who play violent video games. This research consists of two parts involving male adolescents aged 12 to 17, with N1= 241 and N2=161. The study includes "Media exposure questionnaire"; Emotional recognition assessment was conducted by facial expression recognition task and Inhibitory control was measured using Stop Signal task a

neuropsychological test. The study used cross-sectional and experimental design to assess the effects. The data analyses were done by multiple regression method. The findings suggest that violent video games have potential benefits in cognitive development and the anti-social contents in video games has impacts on emotional development.

A study examined the impact of playing video games and board games on cognitive abilities, involving 496 individuals. The participants underwent six cognitive assessments, which included tests for mental flexibility, planning, visual working memory, verbal working memory, visuospatial skills, and fluid intelligence. and Gaming practice questionnaire. The study utilized

a cross-sectional and multiple regression analysis used to analyze data. The result suggest that video games have unique role in enhancing performance in cognitive development (Martinez et al. ,2023).

The study explored how exposure to violent video games is connected to problematic behaviors in adolescents, involving a sample of 2,118 students, and emphasizes the mediating impact of peer relationships, gender differences, and grade levels. The research assessed how often students engage in playing violent video games. Deviant peer affiliation assessing the participants associated with peers who engaged in deviant behavior also, the problem behavior is assessed through self-report questionnaire. In the study Moderation analysis and structural equation modeling for data analyses. The findings suggests that violent video game exposure significantly increased problem behavior by deviant peer affiliation, gender differences and grade level (Chen et al., 2022).

Studies on Aggression

Purandares (2017) investigated the correlates of aggression among adolescents the role of family relations, personality traits and situational stressors involving 540 sample (270 adolescents & 270 parents). The study used High school personality questionnaire, Situational Stressor questionnaire, Aggression scale, Harsh Parenting scale, Marital Hostility scale. It also utilized purposive sampling for collecting data. The data analyzes was done by descriptive and correlational method. The findings states that harsh parenting, marital hostility and situational stressors has positive association with adolescent aggression.

The study examined the impact of violent video games on aggressive thoughts and actions in children, involving a sample size of 300 participants. Researchers employed an “Aggressive Cognition Scale” and “Aggressive Behavior Observation Checklists”. The children were randomly assigned to play either violent or non-violent video games, after which further evaluations were performed in a controlled environment. The data analysis employed mediation analysis and ANOVA techniques. The results indicate that children who engage in violent video games demonstrate a greater level of aggressive cognition and behavior compared to those who play non-violent games (Zhang et al., 2021)

Arbel et al. (2023) investigated the Bidirectional link between the Prosocial and Aggression in the daily lives of early adolescents involving 242 participants. Th study used Daily self-reports of adolescents and teachers reports to measure the prosocial behaviors of students for 10 days. The data analyzes was done by hierarchical modeling and lagged effects (ie, whether today’s behavior predicted tomorrow’s behavior). The findings noted from the study reveals that prosocial behavior

may function as a short-term compensatory response to aggressive behavior rather than a preventive factor against future aggression.

Rademacher (2023) investigated Parenting styles and Child aggression from preschool to elementary school the mediating role of emotional dysregulation involving 442 children. This study used Parenting style questionnaire, Emotional dysregulation scale, Aggressive behavior scale. The study utilize mediation method for data analyzes. The findings states that emotional dysregulation significantly mediated the relationship between parenting style and child aggression.

Fahlgren et al. (2022) investigated the Gender differences in Aggression, role of trait anger and provocation levels involving 424 adults with convenience sampling method. The study used

Trait Anger Questionnaire, Behavioral Aggression Task where simulated provocation scenarios to measures aggression in controlled settings. The study utilized correlational analysis to examine relationship between variables. The findings state there's no significant gender differences in overall level of aggression but trait anger and aggressive behavior has positive association with provocation. However, high trait anger is linked with provocation for men but no link was found for women.

Carrasco et al. (2020) investigated Children temperament a bridge between Mother's parenting and aggression involving 904 participants. This study utilized Early childhood behavior questionnaire, Children behavior questionnaire assessing negative affect, Parent-child relationship inventory assessing maternal discipline and communication, Children behavior checklist assessing child aggression. The data collection was done by completion of standardized questionnaire evaluating the child's temperament, behavior and maternal parenting style. The data analyses were done by mediation analyses. The findings indicate that prolonged negative affect has higher influence on aggression, also highlights the importance of considering temperament as a key mechanism in how parenting styles affect early aggression.

Studies on both Video games and Aggression

Rong Shao and Yunqiang Wang (2019) examined the link between violent video games and aggressive behavior in adolescents with a sample of 648 participants. This research employed a "Video Game Questionnaire", the "Buss-Perry Aggression Questionnaire", and the "Family Environment Scale". The analysis utilized descriptive statistics to calculate means and Pearson correlation coefficients among the variables in the study. The results indicate that there is a

positive correlation between exposure to violent video games and aggression in adolescents, with normative beliefs about aggression serving as a mediator in the relationship between these factors.

Zheng, X et al. (2021) examined the connection between online violent video games and online aggressive behavior, focusing on the mediating influence of anger and the moderating effect of self-control involving 595 college students. The study utilized "Online violent video game exposure scale", "Anger rumination scale". "Self-control scale", "online aggressive behavior scale". The data analyses were done with mediation analysis method. The findings reveal that exposure to online video games has significant increase in anger rumination and online aggressive behavior.

Chen, S. (2023) investigated the effects of video game violence on aggressive behavior, the moderating role of game immersion involving 123 participants. The study utilized pilot studies through avatar roles and graphics quality as tools for data collection. The data analyzes was done by regression models and ANOVA to analyze the main effects and interaction between justification and

immersion on aggressive behavior. The findings suggest that justified video game violence exhibit higher level of aggressive behavior.

Based on the above review of literature offers comprehensive insight into the connection between the use of violent video games, their frequency and content, and aggressive behavior in adolescents, while also examining the psychological, emotional, and social factors that mediate this relationship. Various empirical studies demonstrate a positive correlation between these variables, which supports theoretical frameworks like the General Aggression Model, Social Learning Theory, and Catalyst Theory, suggesting that repeated exposure to violent games and media can influence aggressive behavior and diminish empathy over time. Observations of this relationship across different cultural contexts indicate a common trend regarding the effects of

media on aggression. (Anderson & Dill, 2000; Shao, n.d; Zheng, 2021). It was also discovered that cognitive and emotional factors play significant roles as facilitators. The impact of violent video games on aggressive behavior was revealed to be somewhat influenced by social norms and the tendency to ruminate on anger, emphasizing how consistent exposure can alter internal beliefs and emotional responses. (Zheng; Shao, n.d 2021). Research emphasizes that teenagers from less supportive family settings and poor self-control were more likely to develop aggressive ideas and actions. Conversely, solid family dynamics and strong self-control seemed to mitigate these effects and highlights intervention directions. Though several studies reveal substantial correlation, there's diverse connection between teenage aggression and violent game exposure. These findings underline the importance of a through plan in both research and practice that consider not just the media content but also the cognitive framework, emotional control and socio-economic background of the person.

CHAPTER 3 METHODOLOGY

This chapter gives an overview regarding the methods of research that were followed to execute this study. The method that has been selected in this study has been so carefully planned to go well with the inquiry. This section outlines the research design that aligns with the study's purpose and objectives. The literature review conducted in earlier research has informed the development of procedures for implementing this study. All of them have been presented in a systematic manner under different headings.

AIM:

The aim of the research is to study the relationship between violent video game usage and aggressive behavior among adolescences.

OBJECTIVE:

1. To assess the violence video game usage and aggressive behavior among adolescences.
2. To study the relationship between the usage of violent video game and aggressive behavior.

TEST HYPOTHESIS:

H1: There will be positive relationship between violent video game use and aggressive behavior among adolescence.

H2: There will be significant gender differences in video game usage and aggressive behavior among adolescences.

INCLUSION CRITERIA:

1. Participants age range should be below 10-19 (According to World Health Organization)
2. Willingness to participate in the study.
3. Individuals who can read and comprehend English.

EXCLUSION CRITERIA:

Individuals with prior or current diagnosis of severe mental health conditions.

ETHICAL CONSIDERATIONS

Ethical approval for this research will be obtained from the Institutional Review Board. Participants will be made fully aware of the study's objectives, processes, possible risks, and the confidentiality of their information. Informed consent will be secured from all participants prior to data collection, highlighting the voluntary aspect of their involvement and their right to exit the study at any time without repercussions.

RESEARCH DESIGN AND TECHNIQUES

STUDY DESIGN

The study design opted for this research is Correlational method using purposive sampling method.

SAMPLE SIZE

The target population chosen for this study is adolescents (10-19). The estimated sample for this study is 132 adolescents.

$r = 0.34$

$$n = \frac{(Z_{\alpha/2} + Z_{1-\beta})^2}{\frac{1}{1+r} - 2 \log(1-r)} + 3$$

$$= \frac{(1.96 + 0.84)^2}{\frac{1}{1.34} - 2 \log(0.66)} + 3$$

$$= \frac{(1.96 + 0.84)^2}{\frac{1}{2.0303} - 2 \log(2.0303)} + 3$$

$$= \frac{(2.8)^2}{\frac{0.7082}{2}} + 3$$

$$= \frac{7.84}{0.1254} + 3$$

$$= 62.51 + 3$$

$$= 63 + 3$$

$$n = 66$$

Total sample size = 2×66

$$n = 132$$

OPERATIONAL DEFINITION:**Video game:**

“A video game is an interactive electronic and digital entertainment platform where player’s input creates visual feedback on a screen. It is played on computer, console, mobile-based requiring the involvement throughout the usage, it also provides audio visual output to engage the player to feel the game set-up is more realistic”. (Gentile, 2009)

Aggression

“Aggression is defined as any behavior directed towards another individual that is carried out with intention to harm or injure others including physical, verbal or psychological aspects. It includes observable tendencies like hostile or violent behavior like hitting, threatening or shouting”. (Anderson & Bushman, 2002)

TOOLS:**“Video Game Questionnaire”**

The “Video Game Questionnaire” (VGQ), created by Craig A. Anderson and Karen Dill, consists of 35 self-report items aimed at evaluating players' video game usage, frequency, and preferences, with an emphasis on violent content. It collects data on the five most played games since the seventh grade and the platforms used (arcades, consoles, or computers). The VGQ is frequently utilized in research to investigate the psychological and behavioral impacts of video game exposure, including correlations with aggression, desensitization, and social cognition. It has demonstrated strong internal consistency (Cronbach’s alpha ranging from 0.80 to 0.90) and shows both construct and predictive validity by aligning with factors such as aggressive behavior. The scale uses a 7-point Likert scale: for items (a–d), 1 = Never and 7 = Always, while for items (e–f), 1 = Extremely low and 7 = Extremely high. Cumulative scores reflect the level of exposure: 30–69 indicates low exposure with minimal aggression risk, 70–139 signals moderate exposure with mild aggression, and 140–210 suggests high exposure linked to risky behaviors, desensitization, and diminished empathy.

“Buss-Perry Aggression Questionnaire”

The Buss-Perry Aggression Questionnaire (BPAQ) is a self-administered assessment consisting of 29 items, created by Arnold H. Buss and Mark Perry to evaluate aggression in four areas: Physical Aggression, Verbal Aggression, Anger, and Hostility. It employs a 7-point Likert scale (1 = Extremely uncharacteristic of me to 7 = Extremely characteristic of me) and is commonly used in various settings, including clinical, educational, forensic, and research environments, to analyze both the emotional and behavioral facets of aggression. The scale boasts strong reliability, with Cronbach’s alpha values generally around 0.80, and subscale alphas varying between 0.72 and 0.85, along with robust test-retest reliability. Its validity is reinforced by correlations with

characteristics such as impulsivity, antisocial behavior, and irritability, and it shows predictive validity concerning issues like bullying and interpersonal violence. The subscales consist of Physical Aggression (9 items), Anger (7), Verbal Aggression (5), and Hostility (8). Overall scores categorize aggression levels as follows: 29–57 (low), 58–101 (moderate), and 102–145 (high), with elevated scores reflecting greater tendencies toward aggressive thoughts, feelings, or actions.

PROCEDURE:

The researcher obtained permission from the parents for the purpose of data collection, then the research is carried out with informed consent as per the guidelines with sincerity. Data are collected from the children through self-reported questionnaire in the form of assessments for the two variables chosen in offline mode and compared with the variables selected. The data will be analyzed using statistical techniques, including correlational, descriptive and t-test.

STATISTICAL ANALYSIS

The researcher obtained data from 132 participants and entered the collected data into an Excel spreadsheet. Incomplete and inappropriate data entries which did not meet the determined inclusion and exclusion criteria were identified and removed from the dataset. This ensures the specificity and integrity of dataset. The researcher transferred the data's from excel to SPSS (Statistical Package for the Social Science) software for further analysis.

To investigate the connection between the study variables (video game usage and aggressive behavior), correlational analyses were performed to assess the strength and direction of the relationship among the variables of interest. Correlational coefficients were likely calculated to quantify the association between video game usage and aggressive behavior.

CHAPTER 4

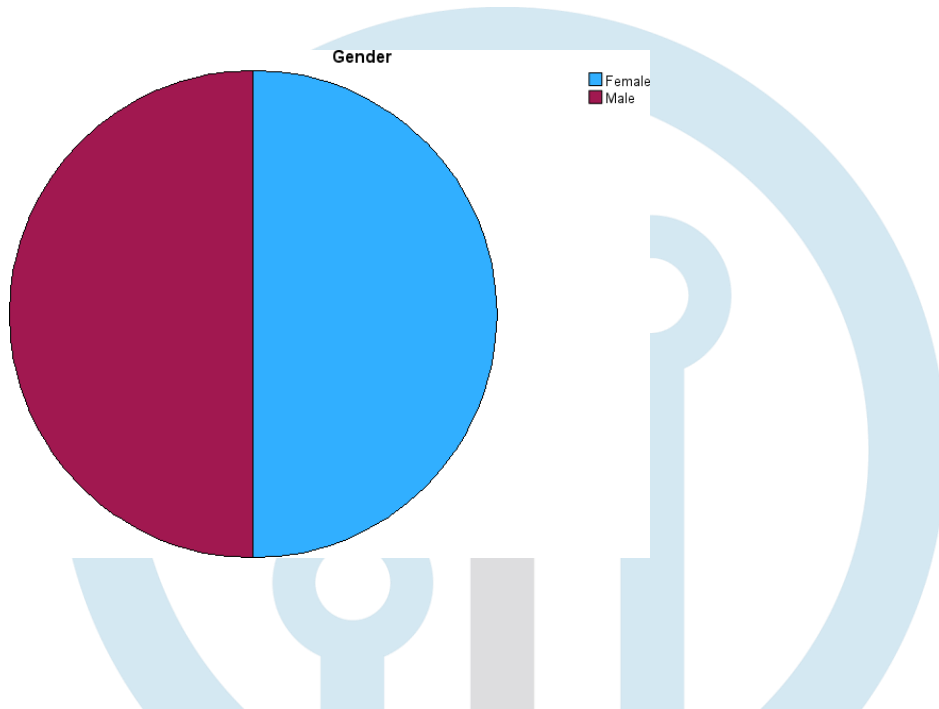
RESULTS AND DISCUSSION

This chapter outlines the results of the data analysis conducted to characterize the sample and tackle the research questions and hypotheses.

Sample Description:

Figure 1

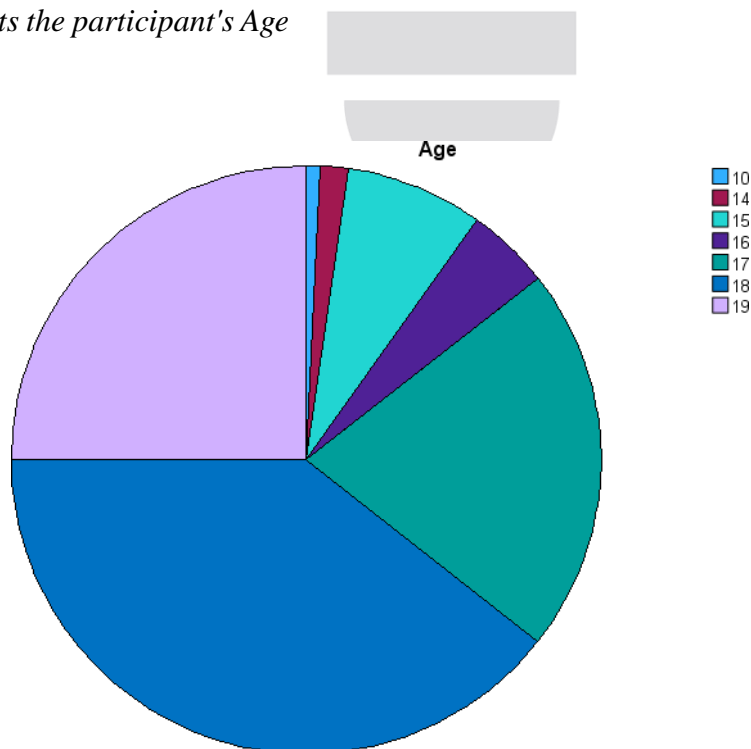
Represents the participant's gender



The above figure 1 represents information related to gender of the total participants, such as male and female, 49.6% percent are reported to be male, and another 50.4% percent are reported to be female.

Figure 2

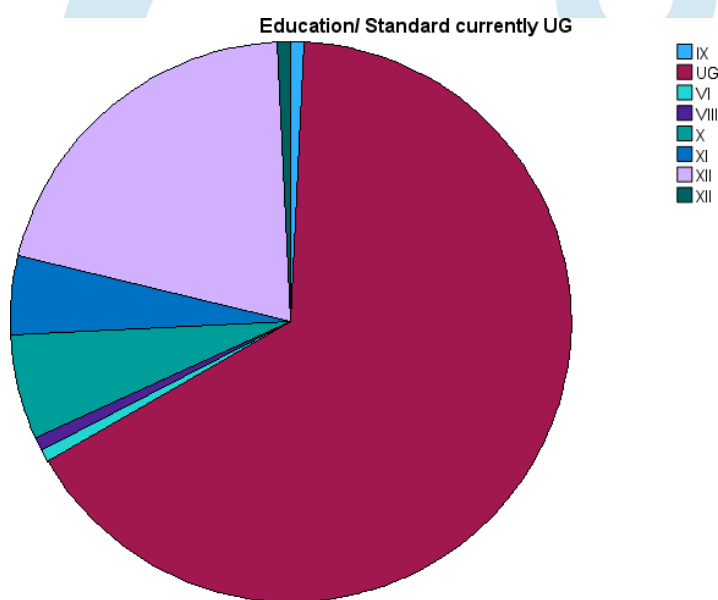
Represents the participant's Age



The above pie chart 2 represents information related to age of the participants 39.8% are reported to be 18 years,24.8% are reported to be 19 years, 21.1% are reported to be 17 years, 7.5% are reported to be 15 years,4.5% reported to be 16 years, 1.5% 14 years,0.8% reported to be 10 years.

Figure 3

Represents the participant's Education level



The above pie chart 3 represents information related to the education level, 64.4% participants are under the undergraduate level, 22% fall under 12th standard, 6.1% participants are studying 10th standard, 5.3% are studying 11th standard.

Table 1

Distribution of participants based on gender

Gender	Counts	% of total	Cumulative %
Male	66	50%	50%
Female	66	50%	100%

Table 1 shows the result from the socio-demographic details corresponding to gender of respondents. Out of 132 responses 50% were males and 50% were females. The cumulative percentage reaches 100% with inclusion of both genders.

Table 2*Distribution of participants based on age*

Age	Counts	% of total	Cumulative %
10 years	1	0.8%	0.8%
14 years	2	1.5%	2.3%
15 years	10	7.6%	9.8%
16 years	6	4.5%	14.4%
17 years	28	21.2%	35.6%
18 years	52	39.8%	75%
19 years	33	25%	100%

Table 2 shows the result from the socio-demographic details to age related data from the respondents. Out of 132 responses 39.8% are reported to be 18 years, 25% are reported to be 19 years, 21.2% are reported to be 17 years, 7.6% are reported to be 15 years, 4.5% reported to be 16 years, 1.5% 14 years, 0.8% reported to be 10 years which is accounted for the least. The cumulative percentages showing a steady increase across age groups.

Table 3*Distribution of participants based on Education*

Education	Counts	% total	Cumulative %
6 th std	3	0.8%	67.4%
8 th std	1	0.8%	68.2%
9 th std	1	0.8%	0.8%
10 th std	8	6.1%	74.2%
11 th std	6	4.5%	78.8%
12 th std	28	22%	21.3%
Undergraduates	87	64.4%	100%

Table 3 shows the socio-demographic details corresponding to educational level of data collected from the respondents. Out of the 132 participants 64.4% participants are under the undergraduate level, 22% fall under 12th standard, 6.1% participants are studying 10th standard, 4.5% are studying 11th standard, 0.8% are studying 6th standard which accounted for the least.

Descriptive statistics

Table 4

Shows the descriptive statistics of the variables

	N	Mean	Std. Deviation
Video game	132	110.52	35.711
Aggression	132	106.11	36.930
Valid N(listwise)	132		

The statistical table provides summary measures for two variables (Video game and Aggression). The sample size (N) is 132 for both variable, with no missing values, suggesting a complete dataset. For the variable video game, the minimum and maximum score ranges between 30 to 180 thereby mean score is 110.52 indicates that participants reported the level of video game usage and the standard deviation of 35.711 indicates a moderate level variability in video game score around the mean. For the Aggression scale the scores ranges from 29 to 195, the mean score is 106.11, indicating the average level of aggression across the sample. The standard deviation is 36.930 is higher than video game usage reporting greater variability in aggression levels. Overall, the descriptive statistics indicates moderate to high variability in both video game usage and aggression levels among the sample.

Table 5

Shows the test of normality for the variables Test of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	df	Sig	Statistics	df	sig
Videogame	.075	132	.068	.981	132	.062
Aggression	.076	132	.062	.981	132	.065

This table represents the Test of Normality for two variables video game and Aggression, using both the “Kolmogorov-Smirnov” and “Shapiro-Wilk tests”. For the variable video game, the “Kolmogorov-Smirnov” test yields a significance 0.068 as its value, while the “Shapiro-wilk” test

yields 0.062. For the variable Aggression scale, the “Kolmogorov-Smirnov” indicates the value 0.062, and the “Shapiro-Wilk” indicates 0.065. As all significance (Sig.) values exceed the conventional alpha value of 0.05, the normality cannot be rejected for null hypothesis. This suggest that both variables are normally distributed, making them appropriate for parametric statistical test that assumes normality, such as “Pearson correlation test or t-test”.

Table 6

Pearson correlations between video game, aggression Correlations

		Video game	Aggression
Video game	Pearsons Correlation	1	.508**
	Sig. (2-tailed)	-	<.001
	N	132	132
Aggression	Pearsons Correlation	.508**	1
	Sig. (2-tailed)	<.001	-
	N	132	132

**Correlation is significant at the 0.01 level (2-tailed).

This table represents Pearson's correlation for the relationships between video game and aggression in a sample of 132 participants. The results indicate the Pearson's correlation coefficient (r) is 0.508 stating a positive correlation between video game usage and aggression levels. The significance value (Sig. 2-tailed) is <.001. which is below the standard alpha value of

0.001 indicating that the correlation is statistically significant. This means that as video game usage increases, aggression levels also tend to increase.

Table 7

Shows the Independent sample t-test for the variable video game

		t-test for equality of means				
		t	df	p	Mean difference	St. Error difference
Video game	Equal variance assumed	-2.257	130	.026	-13.818	6.122
	Equal variance not assumed	-2.257	129.883	.026	-13.818	6.122

The table represents independent sample test comparing two groups on dependent variable, assessing the impact of video game usage. The t-test reveals a statistically significant difference between the groups $t(130) = -2.257$ and $p = 0.026$ (two-tailed). The mean difference is -13.8 and 95% confidence interval. This indicates that the group video game player scored significantly lower on the dependent measures compared to the other group, suggesting meaningful impact of video game exposure on the measured outcome.

Shows the Independent sample t-test for the variable aggressive behavior

		t-test for equality of means				
		t	df	p	Mean difference	St. Error difference
Aggression	Equal variance assumed	1.983	130	.050	12.606	6.358
	Equal variance not assumed	1.983	128.790	.050	12.606	6.358

The table represents independent sample test comparing two groups on dependent variable, assessing the level of aggressive behavior. The t-test reveals a statistically significant difference between the groups $t(130) = 1.983$ and $p = 0.50$ (two-tailed). The mean difference is 12.606 and 95% confidence interval. This indicates that the group under comparison scored significantly higher on the aggression measure than the other group, suggesting a potential influence of group membership on aggressive tendencies.

DISCUSSION

The current research examined the connection between the use of violent video games and aggressive behavior in adolescents, emphasizing the exploration of gender differences and the psychological effects of consuming digital media.

The demographic distribution of participants revealed a balanced gender representation, with 49.6% identifying as male and 50.4% as female. In terms of age, most of the participants were in the range of 17 and 19 years old, with the largest group being 18-years olds (39.8%), followed by 19-years old (24.8%) and 17 years old (21.1%), indicating that the study sample primarily consisted of late adolescents. The educational profile of participants showed that 64.4% were undergraduates, while the rest were studying in hinger secondary school (10th- 12th standard), suggesting a relatively well-educated and developmentally mature cohort.

Test of normality conducted by “Kolmogorov-Smirnov” and “Shapiro-Wilk” indicated that both violent video game usage and aggression scores were normally distributed ($p > 0.05$), permitting the use of parametric statistical tests. “Descriptive statistics” revealed moderately high

engagement in violent video games ($M= 110.52$, $SD= 35.71$) and aggression levels ($M= 106.11$, $SD= 36.93$), indicating considerable variability within the adolescent population regarding these behaviors. The “Pearson correlation” analysis demonstrated significant and positive relationship between violent video game usage and aggressive behavior ($r= .508$, $p< .001$), supporting Hypothesis (H1). The moderate correlation indicates that teenagers who dedicate more time to playing violent video games are likely to show increased levels of aggression. This aligns with

the General Aggression Model (Anderson & Bushman, 2002), which argues that consistent exposure to violent media can strengthen aggressive thoughts and actions.

The research also examined the differences in violent video game usage and aggression between genders. The independent samples t-test indicated a significant difference in video game usage between male and female participants ($t= -2.257$, $p= .026$), with males showing a greater level of engagement. This finding supports Hypothesis (H2) and aligns with existing literature suggesting that males are more inclined to participate in violent gaming and exhibit associated aggressive behaviors (Granic et al., 2014; Anderson et al., 2010). The mean difference of -13.818 , along with a confidence interval ranging from -25.929 to -1.707 , reinforces the strength of this gender difference. These findings imply that gender serves as a moderating factor in the effects of violent video game exposure, likely due to socialization patterns that promote more competitive and aggressive behavior in boys compared to girls. The mean difference is 12.606 and 95% confidence interval. This indicates that the group under comparison scored significantly higher on the aggression measure than the other group, suggesting a potential influence of group membership on aggressive tendencies.

The results of this research align with previous studies that have shown a notable positive correlation between exposure to violent video games and heightened aggression in adolescents (Gentile et al., 2004; Hasan et al., 2013). Nevertheless, it is crucial to consider the larger framework of adolescent development. During adolescence, individuals undergo critical changes in emotional regulation and identity formation, which may make them particularly susceptible to external influences such as media content. The moderate correlation found in this study reinforces the argument that while violent game exposure is not the sole determinant of aggression, it is a significant contributing factor.

These results have important implications for parents, educators, and policymakers. Parental monitoring of gaming content and screen time, as well as promoting prosocial gaming alternatives, could be key strategies in mitigating aggressive tendencies. Furthermore, school-based interventions that foster emotional intelligence and conflict resolution skills may serve as buffers against the potential negative impacts of violent media. It is also crucial for game developers and rating agencies to consider the psychological vulnerability of adolescent users when designing and categorizing game content.

The "cross-sectional design" limits the capacity to make causal inferences, and depending on self-report measures could lead to response bias, especially in the disclosure of aggressive behavior. Additionally, while the gender balance strengthens the generalizability of findings, cultural and regional factors unique to the population studied (e.g., social norms around aggression and gaming in India) must be considered when applying these results more broadly. Future research could benefit from longitudinal or experimental designs, inclusion of qualitative data, and exploration of mediating or moderating factors such as personality traits, family environment, and peer influence.

This research provides important empirical data to the ongoing discussion regarding violent video games and aggression among adolescents. The notable connection between these factors, alongside distinct gender differences, highlights the necessity for thorough, evidence-supported approaches to inform adolescent media consumption. By promoting media literacy, emotional resilience, and balanced digital habits, stakeholders can better support the psychological well-being of youth in an increasingly digital age.

CHAPTER 5 CONCLUSION

This research explored the connection between violent video games and aggressive behavior in adolescents from South India. The results indicate that greater involvement with violent video games correlates with heightened aggression levels, particularly in male adolescents, who were observed to engage more often with violent gaming material. These results underscore the potential psychological impact of violent media on adolescents' behavior and highlight gender as an important moderating factor. The study emphasizes the need for a multifaceted approach to adolescent mental health that includes monitoring media consumption, fostering emotional regulation and encouraging prosocial behavior both at home and in school environments. By understanding the dynamics between digital media and psychological outcomes, stakeholders such as educators, parents and policymakers can implement more informed strategies to support healthy adolescent development. Future research should employ longitudinal and experimental design to better establish causality and explore the underlying mechanism linking violent video game exposure to aggression.

LIMITATIONS:

- The research gathered data on a single occasion, making it difficult to establish a causal relationship between engaging in violent video games and exhibiting aggressive behaviour.
- The sample size might not be the representative of wider adolescent population across different region, socio-economic, cultural origins.
- Video game was subjectively classified as “violent” which may differ based on participants perception, which could impact consistency.
- Additional determinants like personality traits, peer pressure, parental supervision which might impact aggression were not investigated.
- While gender difference was considered, other demographic details like family background were not analyzed.
- The research is unable to assess the lasting impacts of video game usage on shifts in aggressive behavior over an extended period.

IMPLICATIONS:

The findings of this study highlight the important role on how violent video game exposure can play significant role in shaping aggressive behavior among adolescents, with specific emphasis on the higher susceptibility among male participants. These results carry significant implications for educators, parents, policymakers and mental health professionals. Educational institution and schools should consider incorporating media literacy programs into the curriculum to help adolescents critically evaluate the content they consume and develop healthier media habits.

Parents should be encouraged to monitor and regulate their children video game usage, with respect to exposure to violent content, while also promoting prosocial alternatives and constructive recreational activities. Policymakers may explore the need for stricter content rating enforcement and the development of age-appropriate guidelines for video game consumption. Mental health professional working with adolescents should assess media exposure as a part of their behavioral evaluations and design interventions that foster emotional regulation and conflict resolution. Finally, the study underscores the importance of future research to explore the underlying psychological and social factors that influence or alter the connection between playing violent video games and aggressive behavior, encompassing elements like peer pressure, personality characteristics, and family dynamics.

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