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Effects of violent media and video games on adolescent: Review

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ABSTRACT

Debate regarding the psychological and behavioral effects of playing violent video games has recently led to claims that violent video games increase aggression effects in adolescents, and that this issue has now been settled. However, other researchers have found either no detrimental effects from game playing or even positive effects. In this research we demonstrate that these different conclusions are not mutually exclusive and can be explained by the method of assessment and analytic techniques utilized, long and short team effect is being examined.

Keywords: Violent media, Video games, Adolescent.

INTRODUCTION

Media Violence is the kind of an extreme form of aggression that is produced due to constant exposure to aggressive and violent behavior in mass media, resulting in human suffering, lost lives, and economic hardship to our society as well as an atmosphere of anxiety, fear, and mistrust. Adolescents today spend most of their time going to school and consuming media. On average, they spend about forty hours per week watching television and films, listening to music, playing video games, and spending time online [1]. In a nationally representative sample of U.S. teens, "99% of boys and 94% of girls play[ed] video games," and 70% of nine- to eighteen-year-olds report playing violent M-rated (for Mature players seventeen and older) games [2]. Indeed, it is difficult to find a video game devoid of violence, as an astounding 89% of video games have been found to include some violent content. Furthermore, more than half of E-rated (for Everyone) games contain violence [3]. With such high levels of exposure to violent content in games, it is imperative to understand the impact that such content can have on children. This Article will review the scientific research concerning both the effects of violent video games on adolescent and the theories that explain why these effects occur. Individual differences among the players and characteristics of the games that influence how much the players may be affected will then be examined.

Aggressive Behaviors, Thoughts, and Emotions

One of the primary public concerns about violent video games is fear over the kind of behaviors the players will assume as a result of their exposure to the games [4]. Evidence points to an increase in aggressive behaviors both in the short run and in the long run. Experimental studies have shown that playing violent games directly causes players to behave more aggressively. These experimental studies typically expose participants to violent games for relatively short amounts of time (usually about fifteen to thirty minutes) before measuring aggression. Aggression typically is measured by allowing participants to blast a confederate (an actor) with loud noise through headphones. People who play violent video games give longer and louder noise blasts to their opponents than those who play nonviolent video games [5]. Longitudinal studies reveal other, real-life examples of increased aggression, including higher numbers of arguments with teachers and more

involvement in physical fights. In addition to increasing aggressive behaviors, playing violent video games can also increase aggressive thoughts. After playing a violent game, people list more aggressive thoughts and interpret ambiguous stories in a more hostile manner [6]. In fact, exposure to violent video games may lead the player to interpret many different situations in a more aggressive way an effect known as the hostile attribution bias. Playing violent video games also can increase aggressive feelings in players. After playing a violent game, people report feeling more anxious and hostile. Empirical evidence also indicates that playing violent video games can lead to the development of a more hostile and aggressive personality [7].

Physiological Arousal

The effects of violent video games are not only evident in aggressive thoughts, feelings, and behaviors—physiological changes also can occur during game play [8]. Exposure to violent video games produces numerous changes in the body, including increased heart rate and increased skin conductance. This physiological arousal later can affect how the player interprets a mild specific emotion (e.g., anger) to an unrelated event (e.g., enduring a teasing comment from a peer). This interpretation can cause the player to feel the emotion as more severe than otherwise because some of the emotional response stimulated by the violent game is misattributed to the provocation, a process called excitation transfer. This excitation transfer potentially could cause the player to act more aggressively due to heightened arousal in a situation where he or she normally might not act out [9].

Prosocial Behaviors

Prosocial behavior refers to voluntary actions that are intended to help or benefit another individual or group of individuals [10]. This can include giving physical aid to another person, donating money to charity, sharing toys, and other similar activities. A negative relationship exists between playing violent video games and exhibiting prosocial behaviors afterward; that is, exposure to violent video games decreases the likelihood that the player will engage in an activity that helps another person [11]. For example, in one study violent game players were much slower to help a violence victim than were nonviolent game players. Thus, it has been shown that violent video games increase aggressive thoughts, aggressive feelings, aggressive behaviors, and physiological arousal, and decrease prosocial behaviors.

Psychological Processes

Different psychological theories can explain the short-term and long-term effects of playing violent video games [12].

Short-Term Effects

The short-term changes that occur in children's behaviors, thoughts, feelings, and arousal levels immediately after playing violent video games mainly can be accounted for by three psychological processes: the priming of already existing aggressive behavioral scripts, aggressive cognitions, and angry emotional reactions; mimicking the aggressive scripts presented in the game; and stimulation of physiological arousal caused by the observation of violence [13]. Each of these processes will be explained below.

I. Priming

Research conducted by neuroscientists and cognitive psychologists suggests that, in addition to holding numerous behavioral scripts, human memory consists of a large associative network consisting of many neural "nodes" and "links." [14] Each node represents a concept, such as what the color red is or what anger feels like. Associations between concepts are denoted by links. For example, a link between the color red and the concept of anger could lead one to associate the color red with feeling angry. In this manner, thoughts, feelings, and behavioral tendencies and scripts are linked together in memory. Exposure to a stimulus can activate concepts or "nodes" in memory; this activation spreads along the links to connected nodes and activates associated concepts [15]. This process is called priming. Priming is

subtle, it usually occurs without the person being aware of it. Because these particular nodes are activated, the person is more likely to experience certain thoughts, emotions, and behaviors related to those nodes [16]. While playing a video game the player is exposed to many different stimuli, which may include weapons and violent acts. This exposure, in turn, can lead to the activation of different aggressive scripts and concepts, prompting the person to think, feel, and behave more aggressively afterward. In a play or movie, scripts tell actors or actresses what to say and do. Similarly, in psychology, scripts define situations and guide behavior: A person first selects a script to represent a situation and then assumes a role in the script. One example is a restaurant script (i.e., enter restaurant, go to table, look at menu, order food, eat food, pay for food, leave tip, exit restaurant). A person possesses a multitude of scripts for deciding how to act in different situations. In each situation, the person first must select a script from memory to represent that situation and either accept or reject the script as a guide to behavior [17]. Scripts can be learned through direct experience or through more indirect means by observing others, including media figures such as those in video games. One famous example of priming is called the weapons effect, wherein just the mere sight of a weapon can increase aggressive thoughts and behaviors. Certainly this process is in effect when playing violent video games that contain many weapons.

II. Mimicry

The tendency to mimic or copy the actions of others is a very old condition. Our children and our evolutionary ancestors, primates have an innate tendency to mimic the behaviors of those they observe [18]. The discovery of "mirror neurons" in the brain points to a neurological basis for both mimicry and longer-term imitation. What we see in our environment is mirrored in our minds for the purpose of helping us learn to imitate it. The brain responds very similarly whether you are watching someone else do something or doing it yourself. As a consequence of this tendency to mimic, children who observe others performing aggressive acts whether through direct exposure or through the media are more likely to mimic those aggressive behaviors immediately after observing them [19]. This propensity to mimic the actions of others increases when the child identifies with the person or character. Children tend to identify with people and characters they perceive as being similar to them (in terms of gender, race, etc.) and as possessing traits that the children deem attractive [20].

III. Stimulation of physiological arousal

Violent video games often contain many action-packed sequences that increase the player's physiological arousal, such as elevating heart rate and blood pressure [21]. Such heightened arousal caused by exposure to violent content increases the probability that a person's dominant response tendency, how he or she is most inclined to act will be carried out in the short term. In this manner, a player who naturally has aggressive tendencies will behave even more aggressively once they are aroused by observing violent content. The player does not need to have aggressive tendencies in order for the stimulation of physiological arousal to affect aggressive behavior. As explained above, a person may misattribute their increased arousal to an unrelated provocation via the process of excitation transfer [22]. Because of this erroneous conclusion, the player may behave in a more aggressive manner.

Long-Term Effects

The long-term changes that occur after playing violent video games mainly can be accounted for by three psychological processes: observational learning of aggressive behaviors, classical and operant conditioning of aggressive responses, and desensitization of emotional processes elicited by violence [23]. Each of these processes will be examined below.

1. Observational learning

Mimicry is the short-term copying of the actions of others. In contrast, observational learning refers to "the

process through which behavioral scripts, world schemas, and normative beliefs become encoded in a [person]'s mind simply as a consequence of the [person] observing others." Whereas short-term mimicry needs only one exposure to the observed behavior for children to imitate the action, long-term observational learning usually requires repeated exposure or repeated rehearsal. Observational learning is a powerful extension of mimicry in that it can produce long-lasting changes in the way a person thinks, feels, and behaves. For example, extensive observation of violence (such as by playing violent video games for days at a time) can lead children to attribute more hostility to others' actions—that is, to develop a hostile attribution bias. This change in thoughts, in turn, can increase the likelihood that the child will aggress over time. Similarly, repeated observation of aggressive characters and actions in violent video games can lead children to develop beliefs that aggression is normal and appropriate [24]. This repeated exposure also can cause children to acquire behavioral scripts that include acting aggressively in many different situations. Several factors influence the extent to which observational learning will affect the child. The more the child pays attention to the observed behavior, the more easily the child will learn the behavior [25]. Additionally, the more the child identifies with the observed character, and the more the observed behavioral scripts are rewarded and deemed appropriate, the more firmly these scripts will be embedded in the child's mind. Finally, if the scripts and beliefs that the child acquires from observing others lead to positive outcomes for the child (for example, in the game Bully the character Jimmy Hopkins beats up his peers, earning the child more spending cash), these scripts and beliefs will be more resistant to change.

2. Classical and operant conditioning

Two well-known examples of behavior modification are classical conditioning and operant conditioning. In classical conditioning, a natural response becomes associated with a neutral stimulus. For example, in Pavlov's famous experiments, a dog naturally salivates at the sight of food [26]. By repeatedly pairing the presentation of food with the sound of a bell, the dog learns to salivate upon just hearing the bell. Exposure to violence via playing violent video games also involves the vicarious conditioning of emotional reactions. Through classical conditioning, fear or anger can become linked with specific stimuli after only a few exposures to the game. "These emotions influence behavior in social settings away from the [game] through stimulus generalization;" that is, the player may "react with inappropriate fear or anger in a novel situation that is similar to one that the child has observed in the [video game]." In the process of operant conditioning, certain behaviors and rewards that do not come naturally to the subject become associated with the presentation of particular stimuli [27]. For example, a dog might learn that it will receive a treat if it shakes hands when its owner says "shake." In much the same manner, violent video games can reinforce certain behaviors for the player. Violent video games can condition children directly to behave in more violent manners. In the course of playing a violent video game, the player may be rewarded with an increased score, a higher social reputation, or other positive benefits for performing aggressive acts like killing other characters. The player then may come to associate behaving aggressively with being rewarded, increasing the likelihood that he or she will act aggressively in the future with the expectation of receiving the conditioned reward.

3. Desensitization

Repeated exposure to violent video games also can cause the player to become affected less by the violence portrayed. This habituation of certain natural emotional and physiological reactions is called desensitization [28]. Behaviors seen and conducted by the player that may be disconcerting at first (such as

killing another character) begin to seem more and more normal after repeated observation and experience. Negative cognitive and emotional reactions the player initially may have felt habituate, and he or she no longer is bothered by such actions. This emotional habituation, in turn, may lead the player to cease feeling any negative effect when witnessing, planning, or performing other violent behaviors. This desensitization also occurs for physiological reactions to violent content. As explained above, playing violent video games increases physiological arousal through elevated heart rate, skin conductance, and blood pressure. However, after repeated exposure to violent video games, these physiological changes can become blunted and may no longer occur. A neurological study found that violent game players show decreases in a particular brain wave associated with being negatively affected by a stimulus [29]. This reduced brain response then was associated with later aggressive behavior, suggesting a neurological basis for physiological and emotional desensitization associated with playing violent video games.

CONCLUSION

Video games and accompanying online content offer much in the way of excitement and entertainment for children and adolescents, and indeed many positive experiences can be derived from playing the games.125 However, parents should be aware of the dangers inherent in playing violent video games, and should monitor their youth's game playing accordingly.

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