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Video Game Violence: Is there any Truth to the Catharsis Hypothesis?

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Module: Patterns of Action Dissertation (C83PAD)

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Degree: BSc (Hons) Psychology

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1. Abstract

The catharsis hypothesis has enjoyed much attention in the media violence literature as it has claimed that different forms of media can help reduce aggressive tendencies in people. This dissertation particularly focuses on the relationship between violent video games and catharsis, due to its more active nature. However, there is little evidence to show that violent games are cathartic. Instead the majority of evidence demonstrates that aggression increases as a result of playing violent video games, both in the short- and long-term. This dissertation looks at the problems surrounding the catharsis hypothesis and alternatively proposes how aggression can be learnt from playing violent games, in terms of the social learning theory and the General Aggression Model. A conclusion is drawn advocating that there is little truth to the catharsis hypothesis particularly in terms of violent video games and a suggestion is made that future research should look at using video games with the aim of promoting prosocial behaviour.

2. Introduction

As technology has been advancing, the past four decades have seen video games soaring in popularity, with 63 million consoles and PC games being sold in the UK in 2010 (Swift, 2012). Technological advances have enabled video games to be played on various platforms e.g. computers, consoles and portable devices, and so it has been estimated that in the US, the average household owns at least one dedicated games console, Smartphone or PC, thus diversifying its impact (Entertainment Software Association [ESA], 2014). Violence in video games has also become more prevalent. Provenzo (1991) found that 85% of video games included some aspect of violent content and that almost half of all video games involved violent actions such as killing or harming others. The ESA (2014) reported that among the top 20 selling video games of 2013, *Battlefield 4*, *Call of Duty*, *Grand Theft Auto V* and *Assassin's Creed* were all at the top of the list; all of which involved some degree of serious violence that were quite graphic in nature.

Throughout the media violence literature, violent video games and aggression have tended to be linked together, with aggression in this context being defined as an intentional behaviour that is intended to inflict harm on others (such as a character in a video game) (Anderson & Bushman, 2001). Therefore, violent video games have generally been surrounded by negativity. This dissertation will be examining whether

violent video games can in fact have a positive impact on behaviour by exploring the concept of catharsis. This will be done by critiquing the literature surrounding this idea, in order to establish whether it is such a viable hypothesis.

3. The Catharsis Hypothesis

The catharsis hypothesis is the idea that by acting out built up emotions, it allows one to release their aggressive tendencies in a socially acceptable manner (Griffiths, 1999). There has been some evidence to suggest that the expression of aggression can have a positive effect in terms of decreasing physiological arousal (Geen & Quanty, 1977). For example, Verona and Sullivan (2008) found that when participants administered either aggressive (shock button) or non aggressive (correct button) responses, heart rate was found to have reduced in those administering the aggressive responses. Furthermore, Hokanson and Edelman (1966) along with Hokanson and Shetler (1961) found that when participants were allowed to respond in an aggressive manner, following an interpersonal provocation, males exhibited rapid reductions in systolic blood pressure, compared to females. Therefore, this shows that the notion of catharsis may have some beneficial qualities in terms of its effect in reducing the physiological components related to aggression.

In regards to media violence, the catharsis hypothesis posits that playing violent video games allows one to vent their aggressive impulses, hence reducing aggression, which consequently leaves people feeling emotionally calmed. Therefore, it can be seen as having a beneficial and positive effect on behaviour (Gentile, 2013). Particular focus has been given to video games because it is seen as a more active form of media. Compared to watching films or television, which are seen as a more passive and vicarious medium, video games allow its players to have more control over their character's actions, thus permitting individuals to have a more active role (Dill & Dill, 1998). As well as this, it has been suggested that individuals are unlikely to be as engaged whilst watching television or films compared to those playing video games (Sherry, 2001). Perhaps this is because the level of concentration required to play video games is more intense in comparison to the levels required by television viewers. Dominick (1984) suggested that television viewers could still follow the story line despite breaking concentration and not paying full attention to what was going on. However, the same cannot be said for video game players, especially for violent video games, like those involving shooting. This is because it necessitates that players constantly scan the screen for signals or small

changes which can alert the player of an 'enemy' (Gentile, 2011). Therefore, it is harder for players to break concentration except during pre-programmed rest periods. As a result, video games demand a greater deal of active involvement from its players compared to television and film audiences.

Moreover, due to the interactive nature of violent video games, there have been some proposals pertaining to its cathartic effects. For example, in a survey conducted by Kutner and Olson (2008), 62% of players reported that playing violent video games helped them "to relax" whilst 45% stated that it helped them "get their anger out". This suggests that the violent aspect of video games allows people to actively use it as an outlet in order to channel their aggression onto other players, which would otherwise not be permitted in the real world. However, because this was a survey the sample may not have been very representative of the population. Also there could have been potential biases such as social desirability and response bias. Therefore this method may not have been the most objective or valid in terms of establishing a cause and effect relationship between catharsis and aggression in violent video games.

Conversely, an early experimental study supporting the catharsis hypothesis was carried out by Graybill, Kirsch and Esselman (1985). In their study, second, fourth and sixth graders, who were identified as aggressive or nonaggressive based on peer ratings, played either a violent, i.e. boxing, or a non violent video game, i.e. basketball. They found that children who played the violent video game were less defensive, as evidenced by the Rosenzweig picture-frustration study (a test of latent hostility), which was administered after the video games. In contrary to this, subjects who played the nonviolent videogame tended to blame others more and deny any wrongdoings when frustrated. Therefore, this implies that playing violent video games provided children with the means of discharging their aggression in a socially acceptable manner. However, this study was more a measure of fantasy aggression, as the Rosenzweig picture-frustration study required participants to fill in their responses to a frustrating situation between two cartoon characters, rather than real aggression as it would be unethical. Thus, the results obtained in this study may not have been a true indication of a decrease in actual aggression.

Furthermore, the findings by Gitter, Ewell, Guadagno, Stillman and Baumeister (2013) indicate potentially promising results that can be taken to support the catharsis hypothesis. Gitter et al. (2013) carried out two studies. In their first study, two versions of a violent video game was used, one which had an explicit prosocial context (i.e. shielding another character) and the other which was considered 'morally ambiguous' (i.e. killing as many zombies as possible). There was also a

nonviolent game that was used as a control. Prior to playing the video games, participants took part in a competitive reaction time task as a way of inducing aggression in them beforehand. They found a significant reduction in aggression in participants that played the violent video game with an explicit prosocial motive. Additionally, in their second study they found an increase in prosocial cognitions for those playing the violent game with a prosocial motive relative to the morally ambiguous condition. Thus this suggests that having a prosocial motive when playing violent video games may serve as a protective factor against increases in aggression. What's more, this second study also found that, compared to the nonviolent game, the morally ambiguous game produced increased levels of prosocial thought. This implies that having higher levels of prosocial thoughts led to reductions in aggression. As a result, violent video games have been found to support the catharsis hypothesis at least in some way, even if it requires a prosocial motive to do so.

4. Contradictions of the catharsis hypothesis

Although the catharsis hypothesis has enjoyed much attention with its claims of reducing aggression, especially via the use of violent video games, it appears that the evidence does not seem to have painted a full picture, with contradictions being found surrounding this hypothesis.

4.1 Flaws

One of the critical flaws of the catharsis hypothesis is the lack of empirical evidence supporting it. If there was any validity or truth to this hypothesis, there would be an abundance of robust, reliable and replicable studies providing scientific evidence that it occurred. Instead, the scientific evidence seems to be rather lacking (Gentile, 2013). Even though there have been a few studies that have provided some sort of support that violent video games can be cathartic, the evidence warrants caution. For example, Graybill et al's (1985) study showed that after playing violent video games, children were found to be less defensive and therefore less aggressive. However, participants only played the video games for eight minutes, thus this only demonstrated short term effects with there being no evidence of any long term beneficial outcomes. As well as this, children's prior aggression was based on peer

ratings; therefore it may not have been the most objective or valid way of obtaining a baseline measure of aggression.

Moreover, Gitter et al's (2013) study also illustrated short term effects in the reduction of aggression. Yet, aggression was not entirely eradicated implying that there would still be a risk of later aggression, despite there being an explicit prosocial context. This seems to contradict the catharsis hypothesis because rather than it 'purging' or 'cleansing' angry feelings (Bushman & Whitaker, 2010), elements such as aggressive scripts or attitudes may have been picked up and had a lasting impact on players. Thus, it may have reinforced their aggressive tendencies, resulting in long term learning of aggressive behaviour rather than reducing it (Gentile, 2013). [*This will be discussed in more detail in section 4.3*].

4.2 Mistaken beliefs

The thought that playing violent video games may result in catharsis has still remained a widely held belief despite the catharsis hypothesis lacking empirical scientific evidence. Bushman and Whitaker (2010) carried out an experiment to examine whether believing in catharsis attracted people to violent video games, particularly among those who wanted to relinquish their anger. Participants first read a sham newspaper article that was pro-catharsis, anti-catharsis or unrelated to catharsis. Their anger was then manipulated by having them write an essay about an occasion when they were extremely angry. After this, feedback was given on the essays whereby participants in the angered condition were given negative feedback and participants in the non-angered condition were given positive feedback. Participants were then told about violent and non-violent video games and asked to rate how much they wanted to play them. The results showed that participants who were angered and who had read the pro-catharsis newspaper article had a greater urge to play the violent video games compared to the other participants.

However, by maintaining the idea that playing violent video games will help release aggressive urges when angry; rather than stopping aggressive behaviours, it may in fact promote them as people may decide to play violent games whilst angry (Markman, 2010). Therefore people may have a mistaken belief about catharsis such that their actions may have the reverse effect to what they thought, and consequently it can seem contradictory. This is because even though playing violent video games might make people feel better, it may subsequently be related to increased aggression. Bushman and Whitaker's (2010) second study revealed that for participants who read the pro-catharsis article, their levels of anger increased with

their preference for violent video games. Thus, violent video games do not appear to be a useful outlet for anger.

4.3 The provocative nature of violent video games

Learning theories have proposed that video games which are violent in nature serve to increase aggression, rather than decrease it, suggesting that they are more provocative than cathartic. The reason why they can increase aggression is because humans are constantly learning (Gentile, 2013). For example, the social learning theory (e.g. Bandura, 1973) puts forward the idea that learning occurs when behaviours are rewarded through reinforcement. This unequivocally applies to video games because violence is directly rewarded rather than punished. That is, by behaving aggressively, players are rewarded by means of progression to the next level, sound effects and high scores, all of which serve as positive reinforcement (Dill & Dill, 1998). Thus, by being rewarded through the reinforcement of their aggressive acts, it may teach people that these behaviours are acceptable. As a result it could prompt and increase the use of aggression in the real world.

Furthermore, one of the unique qualities of video games, as opposed to films and television, are that players can create or choose their own characters. Thus, people are able to strongly identify with their chosen characters, especially as the ability to choose the race, sex, strength etc. allows for a more individualised experience. This promotes a more interactive experience, and so by being able to identify and imagine being that character, it may stir up an emotional reaction in that player towards both their own character, and their character's opponents. Consequently, this may activate more aggressive tendencies within the individual themselves (Dill & Dill, 1998). Fischer, Kastenmüller and Greitemeyer (2010) found that higher levels of aggression were displayed in participants who used their own personalised character whilst playing violent video games compared to participants who did not play with a personalised character. Therefore, this supports the notion that the more identification one has with a character the more likely it is to trigger an emotional reaction within them.

Aggressive tendencies may also be activated within the individuals because players have a more direct and active control over their characters behaviour. Polman, De Castro, & van Aken (2008) found that for people who actually played violent video games, their aggressive behaviours increased compared to those who simply watched it being played. Therefore, this suggests that due to the interactive nature of violent video games, the player's behaviour could be interpreted as being modelled

on their character in the game. Thus, this is more in line with the learning theory and as a result it can be seen as contradicting the catharsis hypothesis.

Moreover, according to Anderson and Bushman's (2002) General Aggression Model (GAM) the reason why violent video games increase aggression is because it affects people's internal state. For example, it may increase arousal; aggressive cognitions may be primed, such as aggressive scripts and schemas; and it may create an aggressive affective state. It also addresses the fact that the aggressive content of the games can trigger the process of imitation, priming and learning such that violent games can teach players how aggression is performed (i.e. modelling; imitation) and what aggression is (i.e. learning) (Fischer et al, 2010). Therefore, the GAM proposes that this may lead to long term learning because the more violent video games are played the more these knowledge structures are likely to be rehearsed and developed, as illustrated in figure 1.

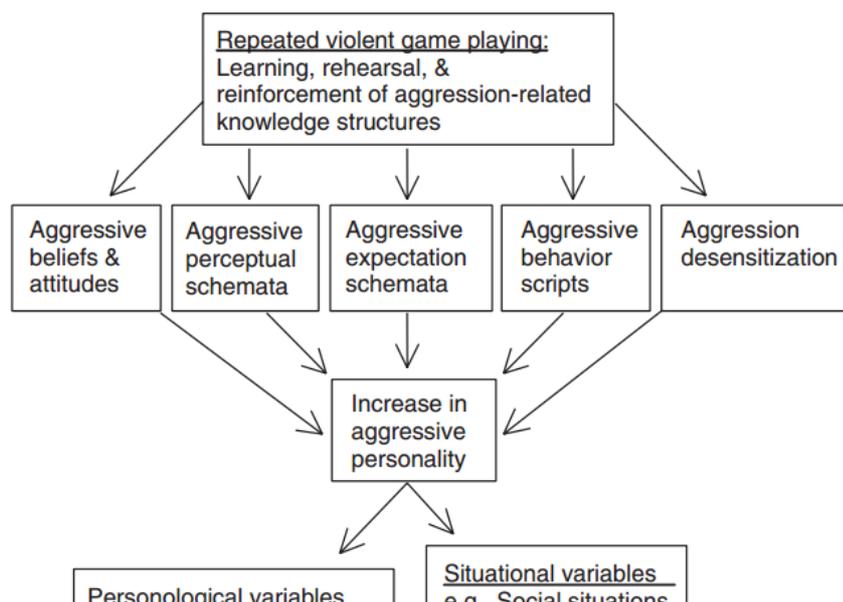


Figure 1. Taken from Anderson and Bushman (2002). Diagram showing the long term effects of video game violence via the multiple-episode General Aggression Model.

Thus, it contradicts the catharsis hypothesis. This is because if there was any truth in the catharsis hypothesis it would mean that the more people played violent video games the less aggressive they would think, feel and behave. However, the opposite pattern actually occurs. That is, the more one practices, the more likely that learning will occur, and the more effective it is likely to be in the long term. Therefore, the more one plays violent games, the more likely they are to extract aggressive scripts and schemas, and the more likely they are to practice and rehearse aggressive thoughts, feelings behaviour, which intuitively will not lead to lowered aggression (Gentile, 2013).

What's more, people who play video games tend to play a variety of different types of violent games and perhaps play them quite frequently. Gentile and Gentile (2008) carried out a longitudinal study whereby violent video games were treated as if they were a school curriculum, in that it had the potential to teach aggressive behaviours. They believed that if something is to be taught effectively; the more practice that is involved, especially if practised in a variety of contexts, the more likely it is that long term learning will occur. This idea was demonstrated in their study as they found that students who played multiple violent video games ended up learning more aggressive behaviours and cognitions. This effect was even found after the amount of time students played was controlled for. Not only this, but they found students to be more physically aggressive as well. Additionally, the results also showed that students who played violent video games more frequently learned more aggressive behaviours and cognitions. Therefore this is line with the GAM as it suggests that their long term learning of these aggressive acts had improved.

The consequences of this are that the aggression being learned is possibly being reinforced which can allow these behaviours to transfer to the real world (Markman, 2009). For example, Fischer et al. (2009) conducted a series of experiments looking at the relationship between playing violent driving video games and driver aggression. This was done by having participants play street-racing games whereby players were rewarded for violating road traffic rules, thus promoting reckless driving. They were then told to take a driving test where they had to decide when to abandon a risky driving manoeuvre. The results showed that playing more aggressive driving games led people in being more willing to take driving risks in realistic situations compared to those that played non aggressive games, where good driving skills were rewarded. Thus, because violent video games have the unfortunate ability of being able to transfer the aggressive behaviour, which was learned from playing the games, to the real world, it has possibly taught people that aggression is acceptable (Gentile, 2013). As a result it may have had a desensitising effect on individuals.

The multiple-episode GAM shown in figure 1 illustrates that repeated violent game playing can lead to aggression desensitisation, which could consequently result in an individual's personality becoming increasingly aggressive. According to Carnagey, Anderson and Bushman (2007), exposure to violence in the virtual world (i.e. through violent video games), can have a physiological desensitising effect to violence in the real world. Carnagey et al. (2007) examined this concept by randomly assigning participants to play either a nonviolent or a violent video game. They then watched a film clip that contained scenes of real life violence, in which people were shot, beaten or stabbed, and during the whole experiment their galvanic skin response and heart

rate were monitored. The findings revealed that playing violent video games caused participants to become desensitised to real life violence. This is because when participants, who had previously played the violent video game, watched the real life violent video clip, they had lower galvanic skin response and heart rate than participants who played the nonviolent video game. This suggests that they had become less physiologically aroused by the violence, and so it can be interpreted to mean that they think aggressive behaviour is acceptable. This is further corroborated by Bartholow, Bushman and Sestir (2006) who looked at the link between violence desensitisation and brain responses, in terms of event related brain potentials. They found that among violent video game players, violent images resulted in reduced brain responses and this was found to have increased aggression on a subsequent task. Therefore this shows that prolonged exposure to violence can reduce one's usual inhibitions against aggression, and thus it demonstrates that video game violence exposure on aggression has long term consequences for its players. This further supports the idea that violent video games are provocative in nature.

Finally, contrary to the catharsis hypothesis, numerous amounts of studies have demonstrated that violent video games increase rather than decrease aggression. For example, a meta-analysis was carried out by Anderson et al. (2010) who looked at the effects of violent video games on pro-social behaviour, aggression and empathy in both eastern (Japan) and western countries. This meta-analysis was done on 136 papers and it included studies that used experimental, longitudinal and cross sectional designs. The results yielded significant effects meaning there was strong evidence suggesting that exposure to violent video games, in the short- and long-term, were a causal risk factor for increased aggressive affect, cognition, and behaviour as well as decreased prosocial behaviour and empathy in both Japan and western countries. The strength of this meta-analysis is that there was little evidence of publication bias, a more strict inclusion criteria and a greater set of high quality studies were used, compared to previous meta-analyses such as Anderson and Bushman (2001). Moreover, Gentile, Li, Khoo, Prot, & Anderson (2014) also found, during a three year longitudinal study in Singapore, that habitual violent video game play had the effect of increasing aggressive behaviour by means of producing changes in aggressive cognitions. This shows that this effect is robust, especially as there were low dropout rates and the fact that it could be generalised to non western cultures. Therefore, if the catharsis hypothesis was true, even slightly, then one would not expect the findings from these studies and meta-analyses to be so consistent and robust.

5. Conclusion

Despite the catharsis hypothesis being popular in theory, after reviewing the literature the general consensus seems to be that violent video games increase aggressive behaviour, rather than positively impacting it. Therefore, the evidence appears to be stacked against the catharsis hypothesis, and so it looks as though there is little validity or truth to the notion that violent video games can reduce aggression through the venting of aggressive impulses. This is especially the case as the evidence to support this hypothesis is rather limited. Even the studies reported in this dissertation, which supposedly supports catharsis e.g. Graybill et al. (1985) and Gitter et al. (2013), have been found to lack robust, scientific and empirical evidence.

Instead, the evidence suggests that by repeatedly playing violent games, it has the ability to increase aggressive behaviour, cognition and affect, and reduce empathy in the long term so that people become desensitised to violence. As a result, this can lead to more aggression in the real world. Therefore, this seems more in line with the GAM and learning theory. In conclusion, as the evidence on violent video games have not confirmed the popular concept that is catharsis, rather continuing its popularity in psychology, more focus and resources should be geared towards finding helpful interventions. For example, as the evidence seems to have demonstrated that video games appear to be a powerful learning tool for people, particularly young children and adolescents (e.g. Gentile & Gentile, 2008), perhaps future studies should look at ways of using video games to promote more prosocial behaviour, as it could have a positive outcome in the long term.

Word count: 3957

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