UNDERSTANDING MEDIA VIOLENCE FROM A ROLE-PLAY PERSPECTIVE

Effects of Various Types of Violent Video Games on Players' Cognitive Aggression

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Keywords: Video game, Violence, Aggression, Role enactment, Enjoyment, Identification.

Abstract: In this study I investigated the effects of depicted character roles and wishful identification with the main character on aggression and game enjoyment among players in violent video games. The results (n = 36) showed that character roles (e.g., the police, gangster, and athlete) did not have any significant effect on post-game aggression. However, there was a significant association among depicted character roles, wishful identification, and game enjoyment. Implications in terms of the level of aggression, identification with the game character, and game enjoyment are discussed.

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1 INTRODUCTION

Violence pervades our daily lives, regardless of our awareness. According to the hypothesis of innate nature of human violence from evolutionary psychology, it is not so surprising to see human beings' enjoyment of violent media because the sensitivity to violence has evolved from the Stone Age. That is, the innate modules of violence reside deeply inside all human minds. Virtual experience of violence may wake up the innate instinct of violence (Pinker, 2002). Because the human mind still regards violence as a rewarding activity for reproduction and survival, human responses to this wake-up call for violence (i.e., exposure to violent media) could be perceived as something enjoyable, exciting, and satisfactory. As such, the relationship between exposure to media violence and its various negative effects has been one of the most popular research topics in media-effect studies (Sparks and Sparks, 2002). Research on violent video games has also demonstrated that exposure to violent video games tended to increase aggressive affect, aggressive cognitions, and aggressive behaviors among users (Bushman and Anderson, 2002; Carnagey and Anserson, 2005).

However, it is often ignored that there are different types of violence in video games, depending on the depicted role of main characters of the games. For example, violent actions by the police in video games may influence players differently, compared to similar actions by the criminal. It is possible that violent actions by a nice character or our "guy" are perceived to be more acceptable to players when players enact the role of a positive character during their play. According to Pinker (2002), violence has been historically justified within the stereotypical dichotomous view of a good guy versus a bad guy. Skillful violence against animals to get food and against nemeses to protect one's own tribe was regarded as a sign of being a "real man" (p. 309), and thus was adored by people. Fellow humans who are outside the circle of "we" are often treated like animals that do not deserve our sympathy. Violence by the protagonist is accepted well without any disturbance because people tend to identify with the protagonist—the "our guy, thus a good guy" thinking (Oatley, 1994). To summarize, playing violent video games could influence players' level of aggression and judgment of violence differently, depending on how the role of the main character is depicted in video games and how players identify with the character.

Therefore, the purposes of the current paper are (1) to investigate how different types of violence in video games could influence players' level aggression; and (2) to discuss a way to reduce possible negative effects of playing violent video games by altering the context features of violent games. A total 36 subjects participated in the experiment with different types of violence as a between-subject factor (police violence vs. gangster

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DOI: 10.5220/0003497802610266
In *Proceedings of the 13th International Conference on Enterprise Information Systems* (ICEIS-2011), pages 261-266
ISBN: 978-989-8425-56-0
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violence vs. sports violence). Findings and implications in terms of the level of aggression, identification with the game character, and game enjoyment are discussed.

2 LITERATURE REVIEW

Despite a relatively small size of research conducted, compared to traditional media violence (Bushman and Huesmann, 2001, Paik and Comstock, 1994), studies on violent video games demonstrated that exposure to violent video games could cause increase in aggression. The recent meta-analysis (Anderson, 2004) confirmed a significant effect of violent video game on aggressive thoughts, affect, and behaviours, the association of which is greater than the level of association in the relationship between condom use and decreased HIV risk, exposure to passive smoke at work and lung cancer, and calcium intake and bone mass (Bushman and Huesmann, 2001).

In spite that previous research showed a significant relationship between violent video games and aggression among players, there have been relatively a few studies that examined specific factors within such violent games that may influence the degree of post-game aggression. In the following sections, I will review the literature on factors within game play such as character identification and role enactment and their relationships with game-play experience.

2.1 Character Identification

Sherry (2001) argued that despite the existence of an association between violent video games and aggression, the effect size is small and can vary with factors such as types of violence contained in games. For instance, Schneider and colleagues (2004) found the effects of narrative on players' emotional, motivational and psychological responses to first-person shooter games. Their argument is that the presence of a storyline provides a context for engaging in violent acts, which makes people relatively easy to justify such violent acts.

Studies in traditional media suggest stronger effects of justified violence on aggressive behaviours (Berkowitz, Park, Leyens, and West, 1974; Tan, 1981). For instance, youths are likely to be attracted to and identify with the "real heroes," portrayed by the media as aggressive and powerful figures (Huesmann and Eron, 1986). When this happens, they have the tendency to justify the violent acts that the "real heroes" perform, which, in turn, may result in their increased level of aggression both in the short run (Perry & Perry, 1976) and in the long run (Huesmann & Eron, 1986).

In contrast to several studies conducted in traditional violent media, there are a few relevant studies conducted in the context of violent video games that investigated the effects of identification with character on aggression. In an effort to bridge the gap, Konijin, Bijvank and Bushman (2007) conducted a video game study to examine factors that can affect individuals' identifications with the attractive role model in a violent game. They made distinction between similarity identification and wishful identification and suggested that one's wishful identification, a concept close to the vicarious learning (Bandura, 1986), was linked to one's increased aggression. Taken together, the more players wish that they were main characters in violent video games, the more likely they show post-game aggression and enjoyment as shown in research on traditional media effects and video games

2.2 Proteus Effect and Role Enactment

The underlying framework that can further illustrate the relationship between one's identification with the aggressive "heroes" in violent media and the correspondingly increased aggression of players is the Proteus effect (Yee & Balienson, 2007). The Proteus effect is based on self-perception theory (Bem, 1972, Goldstein & Cialdini, 2007) and applied to a new context of virtual environments (VEs).

Self-perception theory posits that individuals define themselves by observing their own actions from a third-person perspective and behave in line with the inferred "self-concept" (Bem, 1972). In light of self-perception theory, Goldstein and Cialdini (2007) further contended that people would infer their own attributes by observing the behaviours of the "psychologically merged others" (i.e., whom they share merged identity with) as if they were observing themselves performing the specific behaviour. Therefore, a sense of merged identity with "others" is a key precondition for one to shape the self-concept from observing others and to behave in a way that conforms to the salient self-concept.

In line with this, Yee and Balienson (2007) coined the term, "the Proteus Effect" to elaborate how an avatar that one plays in VEs can in turn impact one's behaviour. As individuals are

deindividuated in virtual environment (Mckenna & Bargh, 2000), it is very likely that they adhere to the identities inferred from their avatars. As such, according to the self-perception theory (Goldstein & Cialdini, 2007), they tend to perform behaviours that conform to the perceived identities and stereotypes of their avatars. For instance, Yee and Balienson (2007) found that individuals assigned to a more attractive avatar in VEs appeared to be more intimate with the confederate than those assigned to a less attractive avatar; and individuals assigned to a taller avatars showed more confidence than those assigned to a shorter avatar. Similarly, a study of gender-role enactment in VEs (Jung and McLaughlin, 2008) further proved supporting evidence to the Proteus effect. The researchers found that by enacting gender roles in VEs, people showed corresponding gender self-concepts and gender-stereotyping behaviors. More specifically, participants assigned to a male role kept a greater physical distance between themselves and the computer agent than those assigned to a female role, regardless of their biological sex.

In summary, people may show various degrees of aggression and enjoyment, depending on the role and visual representation of the main character in violent video games in ways that conform to role stereotypes. For example, the American TV drama "Prison Break" gives a good demonstration of the potential impact of character roles by showing how the criminal "Michael" and his brother can become "heroes" in the eyes of audiences. In the context of video games, previous studies suggested games containing human and fantasy violence (Sherry, 2001) and presence of a storyline (Schneider, Lang, Shin & Bradley, 2004) are more likely to justify the violent acts and thus make the players more aggressive and enjoyable. As such, the depicted role of a main character in violent video games, together with wishful identification, may influence players' post-game experience such as aggression and enjoyment. Based on this, I propose the following research question and hypothesis:

- *RQ 1: What is the effect of a character role on the level of aggression and game enjoyment among players in a violent video game?*
- *H1: Wishful identification with the main character will be positively associated with the level of aggression and enjoyment among players.*

3 METHODS

3.1 Participants

A total of 36 undergraduate students in a university in Singapore participated in this study (12 participants per each condition). They were given course credits and five-dollar incentive for their participation. Each participant was scheduled to come to a lab to participate in a 30 minute experiment individually. Upon their arrival, the participants were greeted and escorted to a game room with a comfortable chair and a 40 inch flat screen TV to play a certain title of violent video game assigned to them. Then, they were asked to complete the reaction-time task and online survey about their game experience.

3.2 Manipulations of Different Roles

Three different types of violent video games were selected in this study in terms of the distinct role enacted in each condition: the police officer, gangster and athlete. In order to reduce bias caused by different titles within each condition, six titles of violent video games (i.e., two titles per each condition) were used in this study. All the game titles are rated M for mature audience in terms of the level of violence.

In the condition of violence from a positive role, participants played game titles such as "Stranglehold" and "Resident Evil" that portray a role of the main character as a police officer who has to fight violently with criminals or monsters to accomplish given missions. Two game titles for the condition of violence from a negative role are "Kane & Lynch" and "Grand Theft Auto TV." In "Kane & Lynch," participants played a criminal who breaks out the prison and fights against the police. In "Grand Theft Auto TV," one of the most popular violent video games, participants played a criminal who performs violent behaviors such as stealing cars and killing people in the city, without being caught by the police. In the condition of violence from an athlete role, two sports game titles were selected such as "UFC" and "SMACKDOWN VS RAW." Although they are categorized as sports games, they are also rated M for mature audience due to their violence. Participants in this condition fought with other fighters to play in the context of wrestling and ultimate fighting.

3.3 Procedures

3.3.1 Pre-experiment

Each participant was assigned to one of the six game titles and played the assigned video game upon their arrival at a laboratory. Firstly, participants were given a brief instruction about the experimental process. Secondly, the participants were given a brief narrative about the game and the character to help them understand the background of the game and the character. A photocopy of the storyline of the video game was also presented to the participants. The participants were asked to read it carefully to ensure that they have enough time and exposure to be familiar with the role of the main character. Finally, the participants were given an enlarged photocopy of the control panel to help them understand how to play the video game.

3.3.2 Post-experiment

After playing a assigned video game for about 30 minutes, participants conducted a reaction-time task. They were asked to read aloud a series of words displayed on the screen, immediately after playing the violent game. The lab was kept completely quite during the reaction-time task in order to prevent unintended errors from noises. At last, participants completed an online survey about their video-game experience.

3.3.3 Measures

For the reaction time task, a simpler version of the Genov Modified Stroop Task (Anderson et al., 1996, Kirsh et al., 2005) was used to measure participants' reaction times (RTs) in milliseconds to 20 negative words and 20 neutral words. When each word was displayed on a computer monitor, participants were asked to read the word aloud as quickly as possible. For the training purpose, participants first tried the task with eight words: ROSE, CURVE, CALL, WILLOW, FAIL, GLOOM, FIRE, and SORROW (Kirsh et al., 2005). After the training session, participants completed the RT task with 40 words. The presentational order of the words was randomized. The RT for each word was logged in the database automatically in the unit of millisecond.

The final index for RTs was the difference in the average RT between the neutral words and the negative words. We took the difference in order to control for individual differences in RTs. We used the 40 stimulus words matched for length and frequency in previous research (e.g., Kirsh et al., 2005, Kucera & Francis, 1967, Sharma & McKenna, 2001). The 20 negative words were; FEAR, CRASH, GRIEF, DEATH, PAIN, ANGRY, MURDER, HATE, SHOCK, CANCER, ENEMY, AFRAID, MISERY, EVIL, KILL, TRAGIC, THREAT, RAGE, PANIC, and BEATEN. The 20 neutral words were; GATE, NOTE, CLOCK, THUMB, FIELD, LEVEL, LEAGUE, WIRE, BREAD, AUTUMN, ANCHOR, SHOT, NAVAL, SENIOR, EXCEED, LINK, PLATE, DIVIDE, CALL, and FOOT. Higher scores indicated faster RTs to negative words, which meant more salient cognitive-associative networks for aggression (Bushman, 1998).

For game enjoyment, I used six adjectives on a five-point scale ranging from "describes very poorly" (1) to "describes very well" (5); for example: "enjoyable," "entertaining," and "fun.: Higher scores indicated more positive game experience ($\alpha = .93$).

For wishful identification, I used four Liket-type items on a five-point scale adapted from a study by Konijin and colleagues (2007). The four items include "I wish I were like the (main) character in the game," and "I wish I could do the same things the character does." Higher scores indicated stronger feelings of wishful identification with the game character ($\alpha = .87$).

4 RESULTS

I used Analysis of Variance (ANOVA) to test mean differences among three difference conditions. The results showed no significant difference in reaction-time differences among three conditions, $F(1, 32) = 0.54$, *n.s.* However, the trend showed that the participants who played gangster games reacted to negative words faster than the participants who played police games. The participants who played sports games showed the slowest reaction times to negative words, which implies becoming less aggressive after playing violent games. I believe that statistically non-significant difference is due to the small sample size in this study (see Table 1).

Table 1: Means and standard deviations of all measured variables.

	Police		Gangster		Sports	
	M	SD	M	SD	M	SD
RT	5.75	60	18	49	-2.7	51
Enjoyment	3.91	0.64	2.97	1.11	3.29	1.02
Identification	2.25	1.0	1.29	0.54	1.35	0.47

In addition, the results showed a significant difference in wishful identification between the police violence condition and the other two conditions, $F(1, 33) = 6.83$, $p < .01$. Specifically, the participants who played police games wished to be like the violent character in the games more than the participants who played gangster games and sports games. It makes sense that people wish to be like a good character more even in the context of violence.

In the following regression analysis, the results showed that wishful identification was a significant predictor for game enjoyment (standardized regression coefficient = .4, $p < .05$).

5 CONCLUSIONS

In the current study, I investigated the effects of various depicted roles in violent video games on players' post-game experience measured by cognitive aggression and enjoyment of the games. The results showed no significant difference among three different role conditions: police vs. gangster vs. sports. Nevertheless, the trend suggests that future research is needed to examine the potential effects of contextual factors on game experiences.

The participants in the police condition showed the strongest feeling of wishful identification and enjoyed playing games the most. As such, I found a significant association between wishful identification and game enjoyment. This finding implies that the more people wish to be like the main character in the game, the more they enjoy the game. For the game designers, games can attract more players if the main characters in the games have desirable characteristics that make players wish to be like the characters. In other words, the narrative of games is important for players to enjoy games.

There are a few limitations in this study. First of all, the sample size is small, which could have resulted in non-significant results on aggression. Secondly, the time to play games was short. Future research needs to consider a longitudinal study for more robust outcomes. Lastly, I only measured cognitive aggression. Future research can measure affective and behavioural aggression, in addition to the cognitive dimension for a more comprehensive understanding of post-game aggression.

As a final remark, given the results, it may not be a bad idea to have violent games with good-guy characters such as the police although it is rather counter-intuitive. Such contexts may potentially reduce the level of postgame aggression and yet can make players wish to be like the main characters more, which, in turn, result in more positive game experience.

ACKNOWLEDGEMENTS

This research was supported by the Wee Kim Wee School of Communication & Information, Nanyang Technological University (Grant No. RCC3/2009/SCI). The author thanks Chen Ruili and Shi Cong Kristy for their help in data collection.

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