Violent video games and attitudes towards victims of crime: An empirical study among youth

Lavinia McLean
Department of Humanities, Institute of Technology, Blanchardstown, Dublin, Ireland.

Mark D. Griffiths
International Gaming Research Unit, Psychology Division, Nottingham Trent University.

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Lavinia McLean (1) & Mark D. Griffiths (2)

1) Department of Humanities, Institute of Technology, Blanchardstown, Dublin, Ireland.
2) International Gaming Research Unit, Psychology Division, Nottingham Trent University, Burton Street, Nottingham, NG1 4BU, United Kingdom.

Abstract

Previous research has indicated that playing violent video games may be associated with an increase in acceptance of violence and positive attitudes towards perpetrators of crime. This study is the first to investigate the relationship between playing violent video games and attitudes towards victims of crime. A total of 206 young people (aged 12-24 years) completed measures of attitudes towards victims and violent video game exposure. The results suggest that exposure to violent video games is associated with less concern being reported for victims of crime. Young people who play more violent video games reported less concern for general victims and for culpable victims, and these effects cannot be explained by gender or age differences. The results are discussed in relation to relevant research in the area, along with recommendations for future research.

Introduction

Azjen (2005) argues that attitudes can be described as "dispositions to respond favourably or unfavourably to an object, person, institution or event" (2005, p.3). Social psychologists are interested in the impact of attitudes on behaviour and in particular the impact of attitudes of different strengths on behaviour. The MODE model of attitudes (Fazio, 1986; 1990; Fazio & Towles-Schwen, 1999) argues that attitudes are learned associations in memory and that the strength of attitudes has a bearing on their influence on our perceptions and our judgments regarding the information we process. It can be argued that the impact of video games on a person's attitudes according to this theory could increase the accessibility of attitudes where a person's attitude could be easier to access due to long-term exposure to similar attitudes in video game scenes.

Attitudes Towards Victims

Attributions are made about people who are victims, and regarding the level of responsibility of the victim for the crime of which they have been a victim. Research on attitudes towards victims has explored the types of victims that appear to elicit higher levels of blame or a lack of empathy and understanding from others. Victim blaming can be described as a devaluing act that occurs when the victim of a crime or an accident is held responsible for the crimes that have been committed against them (Andrew, Brewin & Rose, 2003).

The research on attitudes towards victims of sexual violence has focused on two main explanations which have been proposed to explain this tendency to attribute higher levels of attribution of blame to victims. These explanations relate to the use of defensive processes people will use to protect themselves, while explaining the action that has occurred to victims of rape. The Just World Theory (Lerner & Matthews, 1967) and the Defensive Attribution Hypothesis (Shaver, 1970) explain how people can distance themselves from the plight of the victim, and through this process elicits higher levels of victim blame, than expected, while simultaneously comforting themselves that they are safe/exempt from this type of occurrence. The Just World Theory (Lerner 1965, 1981), argues that people can find it difficult to

understand a world that is chaotic and where people get hurt who do not deserve it. The theory states that to overcome this difficulty people can argue that victims may have somehow deserved the fate that occurred to them. The Defensive Attribution Hypothesis (Shaver, 1970; Thornton, Ryckman & Robbins, 1982; Muller, Caldwell & Hunter, 1994) argues that individuals attribute positive attributions to people who are similar to us, which can have an additional benefit of protecting us from negative attributions if we were in a similar situation in the future (Anderson, 2004).

Research with children has focused on the perceptions that young people have on victims of bullying and explored positive or negative attitudes towards this form of peer aggressive behaviour. Rigby and Slee (1993) found that a positive attitude towards victims correlated negatively with bullying behaviour in an Australian sample of children aged 6- to 16-years of age, while Boulton and Hawker (2000) argue that attitudes towards bullying were found to significantly predict involvement in bullying with a group of 13- to 15-year olds. Similar research has found that one of the main predictors of readiness to support victims of bullying was having a positive attitude towards victims (Rigby & Johnson, 2006). In relation to gender differences primary school students have been found to be more accepting of girls use of violence and the boys were more accepting of violence overall than the girls in the study (Price et al, 1999).

Positive attitudes towards aggression and violence have been found among aggressive children and adolescents, as compared to their non-aggressive counterparts (e.g. Perry, Perry, & Rasmussen, 1986; Slaby & Guerra, 1988). More recently, results of several studies have shown that children who bully others also express more positive attitudes regarding the use of violence and aggression in response to social difficulties (e.g., Bentley & Li, 1995; Bosworth, Espelage, & Simon, 1999; Olweus, 1997). Hymel, Rocke-Henderson and Bonanno (2005) set out to examine the processes by which student attitudes and beliefs contribute to their involvement in bullying behaviour within the framework of moral disengagement. The researchers argue that young people often justify their behaviour through social cognitive strategies that permit moral disengagement during the school years as a means of justifying and rationalising bullying behaviour. Researchers have argued that in order to explain and protect ourselves, people can attribute blame to victims and this can then leads to a less positive view of victims. In research with children, Fox, Elder, Gater and Johnson (2010) found that a strong belief in a just world in children was associated not only with high self-esteem but also with increased sympathy for victims of bullying.

Video Game Research

The research on long-term and short-term violent video game playing has suggested a link between this game play and the loss of aversive responses to violence and aggression, and a decrease in empathy. (Fanti, Vanman, Henrich & Avraamides, 2009; Bartholow et al 2005, Funk et al, 2004). Physiological desensitisation has also emerged in recent research following violent video game play (Staude Muller, Bliesener & Luthman, 2008; Carnegey et al, 2007; Bartholow, Bushman & Sestir 2006). Recent research has argued for a neural marker that accounts for the desensitisation that follows exposure to violent video games and an increase in aggression (Engelhardt, Bartholow, Kerr & Bushman, 2011).

Ladas (2002), suggested that violent gamers often view the opponents that they harm and/or kill in video games as objects or obstacles, and as such are not viewed as real crimes and/or harm being done to another person. Desensitisation to killing and violence following

exposure to virtual violence may explain these findings. An alternative explanation may be that this view of a virtual opponent may provide a necessary framework to allow the gamers to continue to justify the behaviour to themselves as they play. In this sense, the level of disengagement players experience can be as a result of playing or as a strategy to allow the continued playing of such games (Klimmt, Schmid, Nosper, Hartmann, & Vorderer, 2008).

Hartmann and Vorderer (2010) reject the view that gamers do not see their opponents in these games as social beings. They argue that in order to do this the gamer would be decreasing their ability to immerse themselves in the game, and thus reducing some of the potential enjoyment of the game playing experience. The researchers also argue that the process of recognising computer-generated figures as a social being may be an implicit process that has previously been found as humans have the tendency to anthropomorphise game characters (Mar & Macrae, 2006). In addition, the researchers point to key research conducted on video game engagement, that indicates humans can develop empathy towards animated characters (Morrison & Ziemke, 2005), will report feeling that they are in a social setting when such characters are presented (Hartmann, 2008), and generally will generally behave towards these characters as if they were human (Yee, Bailenson, Urbanek, Chang & Merget, 2007).

Klimmit, Schmid, Nosper, Hartmann and Vorderer (2006) have reported that gamers will describe feelings of moral concern during their game playing, while being aware that the game was fantasy. It can be argued that if participants are feeling moral concern for their actions in a game, yet they are still conducting this type of action (i.e., hurting people), then a social dilemma exists for the person. Hartmann and Vorderer (2009) again argue that this may reduce the level of pleasure that the person is getting from the games they are playing. Festinger's (1954) theory of Cognitive Dissonance argues that a level of anxiety results from a person acting in a way that is inconsistent with their beliefs and attitudes about an attitude object. In this sense, the gamer may be motivated to change their attitude and/or their behaviour in order to justify the actions that they are involved in during their violent video game play, in order to reduce this level of discomfort.

Bandura (1999; 2002) offers a similar theory of moral disengagement with four major categories of psychological mechanisms by which 'good people do bad things', including the cognitive destructuring of harmful behaviour, obscuring or minimising one's role in causing harm, disregarding or distorting the impact of harmful behaviour, and blaming and dehumanising the victim. According to Bandura, moral disengagement serves to disinhibit individuals, making negative and inhumane acts more likely, as the individual is freed from self-censure and potential guilt (Bandura, 1999; Bandura et al, 2001). In this sense, it can be hypothesised that gamers who play violent video games may alter their view of victims in order to reduce their perception of harm that they can cause to virtual victims. Research with children who self-rated as involving themselves in bullying were significantly more likely to emphasise morally disengaging emotional explanations for their behaviour, than those that were not involved in bullying (Hymel, Rocke-Henderson & Bonanno, 2005).

Klimmit et al (2010) have argued that players try to avoid moral concern when playing violent video games as this can reduce their enjoyment of the game they are playing. The authors argue that players will dehumanise the characters in the video games that they are playing, in order to morally disengage from the apparent harm that they are causing as they play these games. Hartmann and Vorderer (2010) argue that there are two key mechanisms that allow players of violent video games to morally disengage as they play. One of the mechanisms is an inner reflection or rationalisation technique that the players will use to

remind themselves that they are just participating in a game, or are fighting for justice, if they experience any unpleasant internal emotions as they are acting in a violent way in the game towards another character (Klimmit et al, 2006).

Further support for the argument of dehumanising effects of video games can be seen in recent research that has found evidence of dehumanisation of people who provoked people, following the playing of violent video games (Bastia & Haslam, 2010; Greitemeyer, 2011). Bastian, Jetten and Radke (2011) argued that a link exists between engaging in video game violence and dehumanised perceptions of the self and of a person's opponent in the game. In their experimental research, Bastian and colleagues (2011) had undergraduate students play two different types of violent video games that allowed for consideration of a game where the players were aggressive against non-human characters, and one where the player is responsible for all aggression against other more human like characters. The researchers argued that in both types of games the players diminished their perception of their own human qualities, thus dehumanising themselves. They also argued that their findings suggest that players do not dehumanise co-players if their aggressive actions help the player to reach their own goals.

It has been argued that the structure of violent video game may play a key role in framing the violence in these games as acceptable (Hartmann & Vorderer, 2010). This may occur through portrayal of violence as acceptable through particular cues in the games such as the requirement to save the world or partake in other general justified violence. Recent research conducted by Hartmann and Vorderer (2010) explored four key cues they argue are implemented in video games to facilitate gamers to morally disengage from concern about virtual violence they are involved in (i.e., justification of violence, neglect of consequences, dehumanisation of opponents, and condemning opponents actions). The researchers argued that their results indicate that less negative affect was reported by participants when the game contained condemnable action of opponents or justification of violence. The researchers acknowledged that their research was conducted with people who had little interest in video games and thus can be seen as less frequent players of video games. The structure of video games may therefore be a key element in the reduction of gamer's feelings of conflict or anxiety as they engage in behaviour that they feel is contrary to their attitudes regarding appropriate behaviour and towards victims of crime. Viera and Krcmar (2011) argue that the structure of violent video games limit children's abilities to develop perspectives of victims and does not encourage affective sympathy in children, as any negative effects of being harmed or killed in the games are minimised ignored, or even rewarded. The graphics and realism in games have increased substantially in the past twenty years and Hartmann and Vorderer (2010) argue that research has shown that game designers will use key cues in the development of characters in games that are shown to increase our perception of the virtual characters as real, such as the displays of emotions, natural facial expressions and breathing and the use of natural sounding vocal tones. However, it can be argued that in violent games (such as war games), the opponents often have (for instance) parts of their faces hidden by masks, and may not speak. Therefore the person playing the game may not be aware of these key elements of the enemy characters that they are facing. Consequently, they may be less affected by these factors in these types of games.

Previous researchers have argued that children are less able to draw appropriate distinctions between aggression in fantasies and in reality, and that this may affect their ability to comprehend the appropriateness of the use of aggressive solutions portrayed in violent video games (Huesmann 1998; Smith & Donnerstein, 1988). Viera and Krcmar (2011) argue that

violent video game playing in children (aged 7- to 15-years) is negatively related to the ability to take others' perspectives and to sympathise with others. In their study, 166 children completed questionnaires related to perspective taking and sympathy. The children then read four scenarios where the character used violence to solve a problem and answered questions regarding if they felt the violence was right or not, as a measure of moral reasoning about violence. The stories used on the study were short and described cases where adults used either unjustified or justified violence. It could be argued that the ability to perceive the justification of the violence in these cases would be difficult for the younger children in the study.

While most of the research on video games has explored the impact of playing games and being responsible for the aggression in the games, recent research has explored the impact of also being a victim of such virtual aggression. The research reported that the impact of experiencing violence as a victim in a video game can affect player's subsequent social cooperation and player's judgments of trust in others (Rothmund, Gollwitzer & Klimmit, 2011). The researchers have argued that the impact of experiencing virtual aggression in a video game as a victim, can lead to people developing a more suspicious mind-set (as measured by lack of trust in a partner), and this is increased for people who have what they term higher levels of victim sensitivity. The sensitivity to mean intentions (SeMI) model argues that a particular personality trait (e.g., victim sensitivity) indicates a readiness of people to respond to cues that suggest to them that others may be attempting to exploit them and this leads them to engage in behaviours to reduce the opportunity of people to do this. This results in a reduction in cooperative behaviour and trust for others. In their research, Rothmund, Gollwitzer and Klimmit (2011) argue that experience of virtual aggression against participants' own characters in video games led to a decrease in trust in partners' actions and in co-operation, after playing these games (for an undisclosed amount of time in a laboratory setting). People with high victim sensitivity were more affected by the experience of virtual aggression.

The research used only male participants and explored short-term effects of video game play only, and it is unclear from the research if the male participants were long-term players of these games (as the girls were excluded due to lack of familiarity with the controls). As Weber, Behr, Tamborini, Ritterfiekld and Mathiak (2009) note, there is a significant difference to be found in the research, in the amount of time that researchers have required participants to play violent video games for their research, and as their research argues each player's individual experience of playing a similar game can be very different as their choices create their own specific game content. Related research has also suggested a link between violent video game playing and decreased prosocial behaviour (Bushman & Anderson, 2009) and co-operation with others (Sheese & Graziano, 2005). The present study was designed to explore the potential impact of playing violent video games on young people's attitudes towards victim of crime. It was hypothesised that long-term playing of this genre of video games would lead to a decrease in young people's attitudes towards victims of crime.

Moderator Variables Explored in the Present Research

Exposure Level

The previous research on the effects of video games has used different levels of video game play, with some research using participants who were long-term players and others who were irregular or novice players of violent video games. The current research was designed to

explore the impact of long-term exposure to violent video games, with participant's level of violent video game exposure reported and explored in relation to their attitudes towards victims. It was hypothesised that there would be a negative relationship between exposure to violent video games and concern for victims (Hypothesis 1).

Different Victim Types

The present research was interested in exploring the attitudes people may have regarding different types of victims. The research on attitudes has mainly focused on victims of particular crimes (e.g., victims of rape, bullying, and domestic violence). The present study was designed to explore the level of concern that gamers may have towards four different types of victims: (i) general victims, (ii) culpable victims, (iii) vulnerable victims, and (iv) victims of property crimes. It was hypothesised that gamers who play violent video games would exhibit less concern for the four types of victims than gamers who play non-violent video games (Hypothesis 2).

Gender

Previous research has focused on the possible differences in effects of video games on males and female gamers. Bartholow and Anderson (2002) found significant gender effects of playing violent video games on aggression for male and female undergraduate students who were light users of video games. The researchers argued that young men may be more affected by the playing of these games than the young women who participated, although the choice of game in the research and the measure of aggression may have a confounding influence on the effects found. Recent research on the effects of violent video game playing with girls has reported that co-playing video games with a parent can lead to a positive outcome for girls, but suggested no apparent effect for boys (Coyne, Padilla-Walker, Stockdale & Day, 2011).

In relation to gender differences in video game research on Viera and Krcmar (2011) found that girls aged 7- to 15-years were more likely to report higher levels of perspective taking and ability to sympathise, than boys of a similar age. The researchers argued this may be related to social conditioning, family environment and general societal reinforcing of stereotypical views of girls (Viera & Krcmar, 2011). In the present study it was hypothesised that there would be a significant gender differences in attitude towards victims' scores, with boys reporting less concern for victims (Hypothesis 3).

Developmental Aspects

Research reveals that victim-liking decreases as children get older, and the current research was interested in exploring the impact of age on attitudes towards victims, with age as a possible moderator of the effect of violent video games on young people and adults. Viera and Krcmar (2011) found that age is negatively related to perceptions of unjustified violence, and as children develop their ability to understand others' perspectives increase, although younger children seemed to sympathise more, as measured by children's responses on a four-item scale developed for the research. The researchers argued that their findings in relation to age differences suggest that that older children play more video games and are more likely to see violence as a retaliation and self-protection as justified, "much like the view of violence presented in video games" (2011, p.127). The literature on bullying suggests that victim-liking decreases with age (Menesin et al, 1997; Rigby & Slee, 1991; 1993) and pre-pubescent

students in particular report more favourable attitudes towards victims, than younger pupils (Gini et al, 2007). It was hypothesised that as children get older they would report less concern for victims of crime (Hypothesis 4).

Method

Participants

The sample comprised 206 participants (129 males and 76 females) from four different second level schools and one third level education institution, in Dublin. Ten schools in Dublin were contacted by email and telephone and four schools agreed to participate. The participants were aged between 12 and 24 years (mean = 16.85 years; SD = 2.57 years).

Materials

All materials were in the form of self-report questions and scales. The following measures were used in this research to explore attitudes towards victims and video game playing habits.

Victim Concern Scale

The Victim Concern Scale (VCS) was designed to assess levels of concern for diverse types of crime victims (Clemments et al, 2006). The researchers argued that few studies have explored attitudes towards different types of victims of crime, and (as previously discussed) the only relevant research has focused on particular types of victims. Clemments et al (2006) use of the VSC scale found that participants expressed the greatest concern for vulnerable victims and victims of violent crime. However, across all victim clusters, female respondents reported higher mean levels of concern than did men. Furthermore, there was also no relation between victimisation status (self or family member) and VCS scores. This therefore suggests that the experience of being a victim did not lead to an increase in victim concern. The Victim Concern Scale (VCS) is a 21-item scale asking participants to rate their concern for different types of victims. Clemments et al (2006) have reported a reliability score for the scale of .978. The items in the scale can be seen to be related to four main factors, or four main types of victims: (i) Factor 1: General Concern (Items 3, 8, 9, 10, 15, 17, 19, 20); (ii) Factor 2: Vulnerable or Violent Crime Victims (Items 1, 2, 7, 13, 18, 22); (iii) Factor 3: Property Theft Victims (Items 5, 11, 14, 21); and (iv) Factor 4: "Culpable" Victims (Items 4, 6, 12, 16).

The initial questionnaire was designed for use with young adults. The questionnaire was adapted in the present study for use with younger adolescents, following a pilot administration of the original questionnaire to a small sample of young people (n=10) and adults (n=8). Earlier versions of the questionnaires were piloted in a secondary school (not part of the sample for this study), and feedback on their construction was sought from the pupils, teachers and support staff who completed them. As a result of the feedback received from this pilot phase, the questionnaires were revised to form the versions described in this study.

Revision of the Victim Concern Scale for the present study

Four items were deleted from the scale due to lack of understanding for some of the younger children in the pilot study. Three items were from the General Concern Victim Items and the remaining one was deleted from the Vulnerable/Violent Crime Victims. The item 'Caucasian victim' was changed to adult victim. The word 'billfold' in item 21 was changed to wallet.

The final revised scale contained 18 items comprising: (i) Factor 1: General Concern (Items 3, 8, 9, 15, 19); (ii) Factor 2: Vulnerable or Violent Crime Victims (Items 1, 2, 7, 13, 18); (iii) Factor 3: Property Theft Victims (Items 5, 11, 14, 21); and (iv) Factor 4: "Culpable" Victims (Items 4, 6, 12, 16)

The layout of the questionnaire was also changed to use a Likert scale to indicate level of concern felt for the victims, rather than putting a number in a box to indicate level of concern. The questionnaire also contained a definition of the term concern, stating *"This questionnaire is interested in your **concern** for different people. Concerned: means to be worried about, disturbed or troubled by something."* A demographic survey was administered asking participants age and gender.

Video Game Questionnaire

The video game questionnaire was based on one devised by Anderson and Dill (2000) to determine the participants' video gaming habits and to assess violent video gaming exposure. The questionnaire comprised an initial page that asked students to indicate if they played any of the following games consoles: *Playstation, Xbox, Wii,* mobile phone games, and/or computer games. The questionnaire then asked participants to name their five favourite games. For each of these five games, students were then asked to indicate how often they played these games during the past week, on a Likert scale from '1' (indicating 'rarely') to '7' (indicating 'often'). Students were then asked to rate how bloody and gory the content of the game was on a similar Likert scale and then to classify the game as either sports fantasy, educational, skills, fighting, or other. On the initial page, participants were asked to tick a box if they never played video games and to place their questionnaires in an envelope provided.

Participants' scores for exposure to violent games were calculated by summing the participants' ratings of how violent each video game was with how bloody/gory the game was and multiplying this by the score of how often they had played the game in the last week. These five scores were then (mean) averaged to give an overall violent video game exposure score for each participant. A higher score on this scale indicated a higher exposure to violent video games. Anderson and Dill (2000) have reported a reliability alpha of .86 for this measure.

Long-term exposure to violent video games was calculated for each participant to ensure that participants had played these games for at least one month previous to the research, and thus could be seen as long-term video game players. Participants' scores were summed for each of the video games and then divided by five to give a mean average overall long-term exposure score for each participant.

Procedure
The first author provided initial details of the study by letter and then met with principals and teachers in the four schools to provide additional information on the study. The students who were under 16 years of age were then given consent forms to ask their parents for permission to participate in the study. One week later, a researcher returned to the school and conducted the research within a classroom setting with the teacher present in the classroom. The students from the third level institution were enrolled on a variety of first year Business and Humanities courses, and were approached within lecture and class time to ask if they wished to participate in the research.

Participants were initially asked if they wished to participate by their class teacher and the research team gave them a brief summary of the requirements (e.g., how long the questionnaire would take and how many questions they would be expected to answer). Each of the classes participating were in a mandatory class (i.e., not elective) at the time of research taking place to reduce the likelihood of self-selecting bias. All participants were informed that participation was completely anonymous and on a voluntary basis. Each student was given unique identification number and told that they could contact the research team with this identification number if they wished to withdraw from the study, following their participation. Each group were then given information sheets and consent forms to sign. The participants were informed that names and identifying information were not required and asked to complete the questionnaire as honestly as possible. They were informed that there were three questionnaires to be completed.

The students were given a large A4 envelope to place their completed form into. Each envelope contained a participant's number and all participants were asked to place this number on the top of their questionnaires. A questionnaire including the Victim Concern Scale was then administered to the students. A member of the research team explained the procedure to each group of students and explained how to complete each questionnaire, including reading aloud the printed instructions for each of the questionnaires. Participants were asked if they had any questions regarding the questionnaires and these were addressed prior to starting the questionnaires. Participants were encouraged to ask for assistance with any difficulties they had while completing the questionnaires. Once participants had completed this questionnaire they were asked to place this in their envelope and given the video game questionnaire to complete. Participants were also informed that video games referred to any games played on computers, game consoles, and handheld devices.

Once all questionnaires were completed and participants had returned their envelope, a short 'question and answer' session took place regarding video games and the resources and supports available to participants if they wanted to discuss any issues that had arisen from taking part in the research. This information was individual to each of the school settings. The participants were reminded that they could contact the research team to withdraw from the research in the future by quoting their unique participation number. All participants were given an information sheet and thanked for their time.

Results

Exposure to Violent Video Games

It was hypothesised that there would be a correlation between exposure to violent video games and concern for victims (Hypothesis 1), and that gamers would exhibit less concern for the four types of victims (Hypothesis 2). All correlations relating to violent video game exposure were carried out using Pearson's product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasity. Results showed there was a significant negative correlation between increased exposure to violent video game play and: (i) overall concern for victims (as measured by the Victim Concern Scale) ($r = -.167$, $p<0.05$). indicating that high levels of violent game play were associated with lower levels of overall victim concern; (ii) concern for general victims ($r = -.302$, $p<0.05$), indicating young people who played more violent video games reported less concern for general victims iii) concern for vulnerable victims (Factor 2) ($r = -.154$, $p<0.05$), indicating young people who played violent video games

reported less concern for vulnerable victims; and (iv) a reduced concern for culpable victims (r =-.238, p<0.05).Young people who played violent video games reported less concern for culpable victims.

Gender Differences

It was hypothesised that there would be a significant gender differences in attitude towards victims' scores, with boys reporting less concern for victims (Hypothesis 3). An independent samples t-test was conducted to compare the attitudes of the male and female participants towards the victims of crime. There was a significant difference in the scores for males (M=60.51, SD=11.17) and females (M=63.97, SD=12.17) in relation to overall concern for victims (t(205) =2.07, p=.039). The scores were split and the male and female scores were compared. A Pearson's correlation was conducted to explore the relationship between exposure to violent video games and concern for different types of victims. When the male scores were considered only, there was a significant negative relationship between exposure to violent video games and concern for general victims (r = -.285, p<.001), and for culpable victims (r =.03, p<.05). There was a significant positive relationship between female participants exposure to violent video games and their concern scores for vulnerable victims (r = .279, p<.05). There was also a negative relationship between girl's exposure and concern for general victims, although this was not significant (r=.062, p=.59).

As there was a significant relationship found between violent video game exposure and concern for victims, it was decided to explore this further while controlling for gender. A partial correlation was used to explore the relationship between concern for victims and violent video game exposure while controlling for gender of participants. The results showed there was a significant negative correlation between violent video game exposure and: (i) general victim concern, controlling for the effect of gender of participants in the study (r= .238, p<0.05); and (ii) culpable victim concern, controlling for the effect of gender of participants in the study (r = .151, p<0.05).

Age

It was hypothesised that as children get older they would report less concern for victims of crime (Hypothesis 4). One-way between groups ANOVAs were conducted to explore the impact of age on scores of concern for victims. Results showed there were significant differences between groups in relation to: (i) overall victim concern (F(8, 197) = 2.67, p=.008). The highest level of concern was reported by 20-year old students (mean = 67.23; SD=11.08) and the lowest level of concern was reported by 12-year olds (mean = 56.4; SD=21.6); (ii) overall victim concern (F(8, 197) = 2.65, p=.009). The highest level of concern was reported by 20-year old students (mean = 21.53; SD=4.08), while the lowest level of concern was reported by 16-year olds (mean = 17.61; SD=4.28); and (iii) overall victim concern (F(8, 197) = 9.12, p=.000). The highest level of concern reported by 14-year old students (mean = 21.09; SD=3.36) whilst the lowest level of concern reported by 20-year olds (mean = 17.46; SD=3.03)

As there was a significant differences found between groups in relation to the effects of age, it was decided to explore this further. The relationship between attitudes towards victims (as measured by Victim Concern Scale) and violent video game exposure (as measured by Violent Video Game scale) was investigated using Pearson's partial correlation while controlling for the age of participants. Results showed there were significant negative correlations between violent video game exposure and: (i) overall victim concern, controlling for the effect of age of participants in the study (r = -.138, p<0.05); (ii) general victim

concern, controlling for the effect of age of participants in the study ($r = .250$, $p<0.001$); and (iii) culpable victim concern, controlling for the effect of age of participants in the study ($r = .171$, $p<0.05$).

Discussion

The present study examined the impact of violent video game playing on young people's attitudes towards victims of crime. The results suggest that young people who play more violent video games have less concern for general victims and for culpable victims, and these effects cannot be explained by gender or age differences in the participant sample. Young people who play violent video games also reported less concern for victims overall and for vulnerable victims and this effect was not due to age differences. However, the effect may be due to gender differences, as when gender was controlled for, the relationship between these attitudes and violet video game play was diminished. When further exploring the gender specific results, there was a significant relationship found between males and exposure to violent video games and their reported victim concern with those who played more violent video games indicating significantly less concern for culpable and general victims than other male participants who did not play such games.

With regards to age, the oldest participants in the study reported the most concern for overall victims, culpable victims, and general victims, while the younger participants reported the greatest concern for the vulnerable victims and the victims of property crimes. The literature on bullying shows that victim-liking decreases with age (Menesin et al, 1997; Rigby & Slee, 1991;1993) and pre-pubescent students in particular like victims less than younger pupils (Gini et al, 2007). The number of students who dislike victims for being weak has also been found to increase over time (Rigby & Slee, 1991). It should be noted that in the present study, an increase in age may also be associated with an increase in exposure to violent video games as children will be playing these games for a longer amount of time.

This study is the first to directly explore young people's exposure to violent video games and their concern for victims of crime, which it can be argued, they are exposed to in the scenes that they are playing in the video games. The general victims in the current study were described as adult victims, grandparents who were victims, female victims, and male victims. When taken together with the research on desensitisation effects of violent video games on gamers, it appears that although the gamers attitudes towards all types of victims of crimes were not significantly different, they do appear to have less concern for what could be considered the less serious crimes or those who they may believe may be less affected by these crimes. It is interesting to consider the role of cognitive processes in explaining the perception of young people towards victims of crime. It could be argued that following video game exposure young people are more likely to engage in defensive attributions or to attribute higher levels of blame to victims as a means of reducing cognitive dissonance. Further research is needed to explore this further.

Previous research has explored the impact of this genre of video games on young people's attitudes towards criminals (Lee et al, 2010) and towards crime. Interestingly, the present study suggests that increased exposure to violent video games is associated with a reduced attitude towards culpable victims, and this it can be argued is in contrast to previous research. The research by Lee et al (2010) suggests that violent gamers would be more sympathetic towards perpetrators and thus it could be argued towards culpable victims. But this was not

the case in the present study. This, it can be argued can be seen to be related to the fact that the perpetrators in the current study were also victims, rather than perpetrators only.

The nature of the current study does not allow for determination of causation, however, it is would be interesting to consider the impact of playing violent video games on young people's attitudes towards culpable victims as it may offer an insight into attributions made about victims generally and the attribution of blame. In this sense, long-term exposure to violent video games may be believed to lead to people developing particular views of culpability and levels of blame, with higher levels of culpability(and therefore less concern) evident as young people played more violent video games.

In a similar vein, gender differences found in the current study could be seen to be related to an increase in the magnitude of attitudes amongst the male violent gamer sample. Clemments et al (2006) found that women reported more concern for all victims described in the scale. In this sense, one would expect all of the participants to report the least concern for the general victims and culpable victims than the property and vulnerable victims, and it can be argued that the playing of violent video games enhanced attitudes that were there already. It is interesting that recent research (Coyne, et al., 2011) has indicated a positive outcome of playing video games, along with a parent, for female players while this effect was not found with male players. In the present study when only the girls were considered, there was a significant relationship found between exposure to violent video games and attitudes towards vulnerable victim groups. This may be linked to levels of empathy, as the literature indicates gender differences in levels of empathy (see for example Baron-Cohen & Wheelwright, 2004; Davis, 1996).

Rigby and Johnson (2006) argued that students are likely to be motivated to help individuals that they feel a level of sympathy or compassion towards. In the current study the participants may not have felt real sympathy towards the victims as they were perceived as adult victims. Future research should explore the impact of video game play on attitudes towards peers. Recent research (Rotmund et al., 2010; Weber et al., 2011) suggests that individual experiences of aggression in violent video games may be experienced differently and may affect people differently, based on their personality characteristics. Further research should consider the individual interpretation of gamers as they are playing different scenes in video games, and the impact of this on their attitudes towards victims.

There is much debate over the impact of violet video games on young people, and researchers have pointed to the validity of measures used to measure aggression in young people following game playing (Bartholow & Anderson, 2002). The present study is the first to explore attitudes towards victims of crime and to explore attitudes towards different types of victims, similar to types of victims that can be observed in video games. Recent research (Viera & Krcmar, 2011) argue that the structure of violent video games may limit children's abilities to develop perspectives of victims and thus do not encourage affective sympathy in children. The structure of games, according to the researchers, may result in the development of particular attitudes towards victims, as any negative effects of being harmed or killed in the games are minimised ignored, or even rewarded. In this sense, the impact of video games can be seen to result in the development of a less positive response to victims and to link in directly to the findings from the current study.

The main limitations of the present study can be related to the scales used. The Victim Concern Scale used in the present study was modified for use with young people, and as such

this could impact the results obtained. Future research could explore the concept of attitudes towards victims in more detail and with specific scales designed for use with adolescents. In addition, the scale used related to concern those participants stated that they had for victims. It may be argued that the questionnaire relates to one element of attitudes only, further research is needed in the area to explore attitudes of gamers in more detail. The video game survey used has been used in previous studies of video game usage but the calculation of exposure to video game violence is based on self report measures of violence and their classification of hoe bloody/gory the game is. It may be argued that participants may intentionally reduce their rating of these games, or that desentisation to the material through long term exposure may reduce their perception of these games as being bloody/gory.

The use of self-report in the current study can result in reduced confidence in the responses made, due to the possible influence of systematic response distortions. However, the questionnaires were administered to adolescents and young people individually in an attempt to overcome some of these difficulties. Olsen et al (2007) argue that the use of correlation studies in the area of video game research does not develop confidence in terms of causality of an effect, and as such the present study does not allow for a consideration of the other factors in a person's life that may impact on their attitudes towards and concern for specific victims.

The findings from the current study can be seen to add key elements to the research on the effects of violent video game play on desensitisation research finding. Future research should explore the different elements of attitudes, exploring more than just concern for attitudes. It would be interesting to explore levels of attitudes towards victims in relation to beliefs about victims and levels of victim blaming with young people who are playing violent games to explore the impact on a wider element of attitudes. The impact of these games on female gamers would also be an interesting perspective to explore and the levels of identification and immersion that girls experience while playing these games.

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