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Gender and Empathy Differences in Negative Reactions to Fictionalized and Real Violent Images

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Research suggests that exposure to graphic violence commonly causes unpleasant emotional reactions. Further, research shows that fictional violence may be more palatable than real violence. We explored whether/why fictional content might lead to weaker aversive reactions than real content. In this experiment (N = 200), we manipulated the perceived reality of violence to determine whether a fictional context leads to reduced aversion, and we examined if gender and empathy could moderate this effect. We found that negative reactions were significantly lower when participants perceived the scenes as fictional. Males in particular experienced lessened aversive states in fictional conditions.

Keywords: Aversion; Empathy; Gender; Realism; Violence

Existing research shows that exposure to graphic violence generally causes aversion, disgust, and other unpleasant reactions for viewers (e.g., Lazarus, Speisman, Mordkoff, & Davison, 1962; Weaver & Wilson, 2009). Despite these disagreeable emotions, increasingly extreme levels of blood and gore regularly appear as part of our "entertainment" options. In the sections that follow, we will consider the role that fiction (versus reality) plays in moderating viewer reactions, and we will appraise individual differences, including gender and empathy, to explore *why* differences exist in the consumption of fictional or reality-based mediated violence.

One key to the appeal of graphic media violence could be that it is fictionalized. Lazarus and colleagues, in a series of experiments on stress reactions to violence, found that extremely graphic scenes including blood and intense pain led to high

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levels of stress and discomfort in viewers. Importantly, however, this stress was moderated by viewers' cognitive appraisals of the violence (e.g., Lazarus & Alfert, 1964; Lazarus, Opton, Nomikos, & Rankin, 1965; Speisman, Lazarus, Mordkoff, & Davison, 1964). For example, when the soundtrack to the graphic scenes encouraged a denial appraisal (i.e., included statements that the scenes were staged and that no one was actually harmed), stress reactions were significantly reduced. Other researchers have also found that graphic violence in a documentary context is much more disturbing and less appealing for viewers than violence in a dramatic context (e.g., Haidt, Rozin, & McCauley, 1994).

Why would fictional violence be more palatable than real violence? One possibility is that the fictional frame provides viewers with an emotional distance that reduces some of the negative emotional reactions (Apter, 1992; McCauley, 1998). That is, viewers may still experience disgust or repulsion at the sight of blood and gore, but with the immediacy of reality removed, these feelings are dampened. Audiences can thus experience some of the appealing components of graphic content (e.g., arousal; McCauley, 1998) without the strong aversion reactions.

Another possible explanation for different responses to mediated violence in real versus fictional contexts is the willingness to suspend disbelief in audiences. Presence (or telepresence) is best understood as the level of involvement with a particular medium (Lombard & Ditton, 1997). As presence increases, the intensity of reactions to the content, whether positive or negative, also increases. Thus, increased presence with regard to graphic or uncomfortable content would likely lead to stronger aversive emotions on the part of the viewer. Presence is widely considered to be just as possible with fictional content as with nonfictional or even nonmediated content; indeed, the International Society for Presence Research (ISPR, 2000) suggested that one aspect of presence is that the media user "fails to accurately acknowledge the role of the technology in the experience." The reason presence can occur in a fictional context is in part because of a suspension of disbelief which audiences may engage to process the fictional content as if it were real (Nowak, Krcmar, & Farrar, 2008). This suspension of disbelief actually appears to be the default processing mode for mediated content. Conscious effort is required to remind oneself repeatedly that what one is seeing is not real. Generally, one is not motivated to engage in this extra effort. However, in the case of extremely graphic or uncomfortable fictional content, one could conceivably consciously override the suspension of disbelief to reduce presence and, thus, reduce the negative affect associated with the content. With content that is perceived as real, on the other hand, the suspension of disbelief is not relevant because the belief simply is that the content is real. Thus, we predict the following:

> H_1: Participants' negative emotional reactions will be greater for graphic violence they perceive as real than for graphic violence they perceive as fictional.

Although the above theoretical explanation of the importance of fiction in the appeal of graphic violence describes why an emotional distance, presence, and ability to suspend disbelief might influence negative emotional reactions, it does not provide much clarification of what exactly makes the fictional frame more distant. Whether

the content is real or fiction, if it is mediated then there is no actual physical threat to the viewer. What, then, could account for the increased emotional distance viewers experience with fictional violence? In this experiment, we examined two individual variables that could help to further explain why fictional content might lead to weaker aversive reactions than real content would: empathy and gender.

Empathy

The importance of empathy as a social function has been expressed in previous research (e.g., Baron-Cohen & Wheelwright, 2004; Nathanson, 2003). Empathy, in this case, includes the ability to predict behavior, mimic others' emotions, and understand another person's intentions. Empathy could moderate audience reactions to graphic violence if we conceptualize the "threat" that Lazarus and colleagues describe in their research not as a threat to the viewer, but rather as a threat to the characters involved. In other words, for this threat to cause an aversive reaction, the viewer must experience some level of empathy with the character. This could help explain why fictional portrayals might lead to less severe negative reactions than real portrayals. If the viewer knows, at some level, that there is no real threat to those characters with whom they are empathizing, then the emotional reactions should be less severe.

Of course, there is quite a bit of variation in empathetic ability within the population. In fact, empathy has been conceptualized as a measurable, normally distributed, and relatively stable trait (Baron-Cohen & Wheelwright, 2004). One possibility we wanted to test in this experiment is whether the level of empathy in an individual would influence the negative emotions they felt when watching others be violently victimized. We would expect that higher levels of empathy would lead to increased negative emotions in response to graphic displays of violence. Moreover, individual differences in empathy should matter more when the content is perceived as fictional. As Haidt et al. (1994) found, repulsion and aversion were universally felt when participants watched real violence. Although they did not measure empathy, presumably even those at the bottom end of the scale were negatively affected by the real images. For fictional content, however, it would seem that those low in empathy would be better able to suspend their empathetic reactions, which would result in less severe aversion. Based on this reasoning, we proposed the following hypotheses:

H_2: Participants high in empathy will have stronger negative emotional reactions to graphic violence when compared to those low in empathy.

H_3: The difference in negative reactions between those high and low in empathy will be larger for fictional violence than for real violence.

Gender Differences

Baron-Cohen and colleagues have suggested that empathizing is more reflective of females than of males (Baron-Cohen, 2002; Baron-Cohen, Richler, Bisarya, Gurunathan, & Wheelwright, 2003). Beyond differences in empathy between males and females, however, there are other reasons to expect that gender differences would

lead to different reactions to violent media. Scholars have shown that male and female brains process mediated messages differently (e.g., Campanella et al., 2004; Flaisch, Bradley, Sabatinelli, & Lang, 2003; Lee et al., 2002). For example, experiments conducted by Wrase et al. (2003) on gender and emotion suggested that the same visual stimuli elicited different levels of arousal and valence in men and women. Campanella et al. (2004) confirmed that pleasant and unpleasant visual stimuli activated different neuronal structures in women compared to men.

These physiological gender differences may also play a part in both the media that people choose to watch and their subsequent enjoyment of that content. Several studies have found differences between males and females in their selective exposure to media violence, for example (e.g., Bushman & Cantor, 2003; Bushman & Stack, 1996; Valkenburg & Janssen, 1999). This research suggests that males are significantly more likely to consume violent media, especially graphically violent media, than females are. Given the gender differences in the existing research, we expected to find the following in this study:

H_4: Females will have stronger negative emotional reactions to graphic violence when compared to males.
H_5: The difference in negative reactions between females and males will be larger for fictional violence than for real violence.

Method

Participants

Undergraduate students (92 women, 108 men, $M_{age} = 19.65$, $SD = 1.17$, age range: 18–25 years) from a large midwestern university, participated in this study in exchange for course credit. Of the 200 participants, 167 identified as White, 11 as African American/Black, 9 as Asian, 9 as more than one race, and 4 as other/unknown. Because the images included graphic violence, participants were briefed about the content they would see before they agreed to participate. All participants were treated according to Institutional Review Board standards.

Materials

A total of 15 pictures containing graphic violence were chosen from the International Affective Picture System (IAPS). IAPS was created to afford researchers a standard set of emotional images to be used in the inquiry of emotion (among other concepts; Lang, Bradley, & Cuthbert, 2008). In the context of this study, graphic violence was defined by images that included blood, gore, or similar levels of extreme violence. Examples of the images include murder scenes, images of mutilated limbs/bodies, and burn victims. A wide variety of images were used in this study, all of which included depictions of graphic (i.e., bloody or gory) violence, and were chosen based on their inclusion of violent content and on their ability to be perceived as both real or fictionalized. These pictures and the surrounding text were manipulated to create two

conditions: real and fictional. In the real condition, the images were unaltered and participants read text at the beginning of the study that indicated the images were in fact real. In the fictional condition, copyright logos such as "© Hollywood Stills" and "© LA Film Stills Production" were added to the images. Participants in this condition also read text that indicated that the scenes they were looking at were staged using photoshop and/or stage makeup. Furthermore, each image was pretested to assure that the real images were perceived as real and that the fictionalized images were perceived as "fake." This pretest was accomplished by showing all of the images in the real condition or all of the images in the fictionalized condition to 16 different graduate students. After each pretest participant viewed all of the images in his/her pretest condition, each was asked whether or not he/she had any reason to believe that there had been any deception in regards to what the experimenter had told them about the images. None of the pretest participants expressed any indication that the real images were "fake" or that the "fake" images were real. As a result, the experimenters were satisfied that the future participants would not question what they were told in regards to real or fictionalized images. Last, an open-ended question at the end of the procedure was designed to inquire if any of participants in the "fake" condition suspected that the images they saw were in fact real. None of the participants indicated that they believed that images were real.

Procedure

After expressing their interest in the study, participants were directed to a Web site created using surveymonkey.com. The participants indicated their consent and then were randomly assigned to either the real or fiction condition. Upon accessing the site, participants answered a series of demographic, empathy, and personality questions. Participants then viewed 15 images and reported negative emotional valence to each. After viewing the images, they then completed two open-ended items. Finally, participants were debriefed and the survey was closed.

Measures

Empathy was measured using a scale developed by Baron-Cohen and Wheelwright (2004). The original 40 question uni-dimensional empathy quotient (EQ) questionnaire was used in the current study. There is some debate in the literature about whether this scale is uni-dimensional or multidimensional. According to Muncer and Ling (2006), a three-factor empathy structure of social skills, cognitive, and emotional reactivity appears to result in the most reasonable fit; however, further analysis by Alison, Baron-Cohen, Wheelwright, Stone, and Muncer (2011) found that empathy is the underlying factor for each of these subdimensions. As such, they suggested that "the EQ is an appropriate measure of the construct of empathy which can be measured along a single dimension" (p. 835). The EQ questionnaire consists of questions like the following: "I can usually appreciate the other person's viewpoint,

even if I don't agree with it'' and were then asked if they: ''strongly agree,'' ''slightly agree,'' ''slightly disagree,'' and ''strongly disagree.'' Responses to these items were coded and summed following Baron-Cohen and Wheelwright's (2004) procedures. In the case of the above example, an answer of ''strongly agree'' was coded with a score of 2, an answer of ''slightly agree'' was coded with a score of 1, an answer of ''slightly disagree'' was coded with a score of 0, and an answer of ''strongly disagree'' was also coded with a score of 0. This coding scheme results in final empathy scores ranging anywhere from 0 to 80. This study found a mean EQ score of 43.6 ($SD = 10.25$), where the highest score was 64, and the lowest score was 17. Cronbach's α for this empathy scale was .85.

Participants self-reported their negative emotional valence towards each image individually (15 images total) on a 7-point scale with endpoints labeled ''*7-strongly negative*'' and ''*1-not at all negative.*'' Participants were welcome to look at each image as long as they desired. The scores for each of the 15 images were averaged to get the negative valence dependent variable.

The study concluded with two open-ended questions. One question asked what participants thought the purpose of the study was to assess whether they perceived any deception of the part of the researchers in regards to the ''fake'' images. The researchers examined these responses to determine whether there was any perceived deception. No participants mentioned that they thought they were deceived. The second open-ended question asked participants what they thought of the images they had just viewed. This question was included to possibly gain some insight as to the thought process participants used in scoring the images. Being optional, only 30 participants responded. Thus, no quantitative analysis was performed on the item; however, quotes from this question were used to help illustrate the quantitative findings of this study.

Results

An ANCOVA was used to test the above hypotheses. The experimental condition (real, fictional) and gender were the two categorical predictors, and empathy was treated as a continuous predictor. All two-way interactions and the three-way interactions between these variables were included in the model. Participants' negative valence was the dependent variable.

The first hypothesis stated that content perceived as real would be rated more negatively than content perceived as fictional. There was a main effect of the experimental treatment, $F(1, 193) = 13.94$, $p < .001$, *partial* $\eta^2 = .07$. When the images were labeled as real, the negative reactions were greater ($M = 5.95$, $SD = .10$) than when the images were labeled as fictional ($M = 5.45$, $SD = .10$). Thus, H1 was supported.

The second hypothesis proposed that those high in empathy would have stronger negative reactions to displays of graphic violence than those low in empathy. This hypothesis was also supported, as there was a significant main effect for empathy, $F(1, 193) = 5.08$, $p = .03$. As empathy increased, negative reactions to the images also increased, $r^2 = .08$.

Hypothesis 3 suggested that there would be a greater difference in negative reactions between high and low empathy for the fictional group than for the real group. This hypothesis was not supported, as there was not a significant interaction between the experimental groups and empathy, $F(1, 193) = .83$, $p = .37$.

Hypothesis 4 predicted a gender difference with females reporting stronger negative reactions toward the images than males. There was a gender main effect, $F(1, 193) = 18.73$, $p < .001$, *partial* $\eta^2 = .09$. H4 was supported; females did report higher levels of negative reactions ($M = 6.02$, $SD = .11$) than males reported ($M = 5.39$, $SD = .10$).

The final hypothesis (H_5) predicted that there would be a bigger difference in negative reactions between males and females for the fictional condition than for the real condition. There was a significant interaction between gender and the experimental condition, $F(1,193) = 6.58$, $p = .01$, *partial* $\eta^2 = .05$. Females did not differ in their negative reactions to real ($M = 6.08$, $SD = .15$) or fictional images ($M = 5.96$, $SD = .15$). Males, however, had a significant drop in negative reactions from real images ($M = 5.82$, $SD = .14$) to fictional images ($M = 4.95$, $SD = .14$). Thus, H_5 was partially supported.

Discussion

Clearly, the real/fiction distinction matters in the reaction of viewers to graphic violence. Consistent with previous research, certain aspects of participants' negative reactions were significantly dampened when participants perceived the images as fictional rather than real. In other words, fiction seems to be a necessary component for graphic displays of violence to be appealing at some level. This is perhaps because the fictional frame provides the viewer with some distance from the images they are viewing. This also could be the result of the fictional frame allowing viewers to overcome their suspension of disbelief in a way that the real frame does not. The main effect for the experimental manipulation is best explained when looking at the interaction between treatment condition and gender. It is males, specifically, who are driving the difference between the real and fictional groups. For females, there was no difference in negative reactions between real and fictional images. For males, negative reactions were significantly lower in the fictional condition. Thus, it appears that in this study, only males experienced a safe emotional distance with the introduction of a fictional context.

Although the fiction manipulation did not affect females' emotional reaction to the violence, it did seem to influence their cognitive appraisal of the content. Many female participants in the fictional condition even recognized that they perhaps should be less bothered by the images because they were not "real," and yet, they could not shake the negative emotional reaction. For example, one female participant stated, "Regardless of the fact that these pictures were fake, they felt real." Another said, "I know these photos are fake but they are still very disturbing." Yet another commented, "The fact that the images aren't real doesn't help me, because I know that there are real life images just like that in the world." These observations indicate that female participants had some difficulty consciously overcoming the suspension

of disbelief, even when they clearly would have preferred classifying the images as obviously fake.

Overall, females are more empathetic than males, and thus it could be part of the explanation as to why females lacked emotional distance from the fictional context. As expected in this study, individuals higher in empathy (regardless of sex) had stronger negative reactions to graphic violence than those lower in empathy did; however, this was true regardless of whether the content was perceived as real or fictional. In other words, the perception of fiction did not seem to provide a license for those high in empathy to essentially suspend their empathetic reactions. Perhaps in this case, the extreme nature of the violence in these images caused a ceiling effect. The fictional frame could provide more distance for more mild forms of violent content, especially in the case of those who are low in empathy. The images in the study were predominately of graphic violence. A potentially fruitful area of future research would be to vary the level of graphicness to determine whether there is a point at which fictional violence begins to become less disturbing.

The violent images in this study were presented in the absence of plot, which also could have elevated the negative emotional reactions for all groups. Often, one of the functions of the plot of a violent film would be to lead the audience to empathize with the aggressor (rather than the victim), which would presumably make the violence less troubling. Still, even in the absence of such a storyline, the fictional frame was enough to reduce negative reactions for males. Additional research is needed to determine whether females or those high in empathy would experience a similar reduction in negative response given a storyline that shifts the focus from victim to perpetrator.

It would also be worthwhile to take a closer look at when and how viewers might intentionally override a suspension of disbelief in fictional content. This suspension of disbelief has generally been discussed as something viewers want to develop because they want to be able to be fully immersed in the entertainment content (e.g., Zillmann, 1991). Viewers could take the opposite stance, however. That is, reengaging disbelief of the content could be a defense mechanism in cases where the content produces aversive emotional reactions. Moreover, if audiences are using this sort of defense mechanism during scenes of graphic violence, presence and immersion in the plot would suffer—potentially decreasing enjoyment. This argument is consistent with existing research on enjoyment of graphic violence (e.g., Weaver & Wilson, 2009), but further research could give us a better understanding of the processes involved in such a case.

The results of this study also have implications for our understanding of desensitization to media violence. Several studies have shown that heavy viewers of television experienced less arousal and less intense aversive emotions when viewing violent scenes than light viewers (e.g., Cline, Croft, & Courrier, 1973). Given that the level of aversion is affected by the real/fictional distinction, it is worth exploring whether the perceived reality of violent content would moderate desensitization. It is possible, for example, that greater desensitization could occur with exposure to violence that is perceived as real due to the greater intensity that such violence would elicit.

In addition, other theories could benefit from the exploration of the real/fictional dynamic. For example, social reality theory (Shapiro & Lang, 1991) could be affected by the presence of perceived realism on the viewer's part. One of the important distinctions of social reality theory is the understanding that all media is not created equal. Social reality theory suggests that viewers will often consider real events more relevant than fictionalized events (Shapiro & Lang, 1991). This is important when looking at the perceived realism of violence. According to this theory, the suggested realism of violence will play a greater role in the viewer's construction of his/her social reality when compared to the fictionalized counterpart.

Similarly, the variable of realism could also advance the perspective of cultivation, which already allows for individual and demographic differences (Gerbner, Gross, Morgan, & Signorielli, 1986). The effects of long-term exposure to real mediated violence compared to fictionalized mediated violence would likely shape how audiences of these genres see their world. However, further research would be necessary to determine what affect perceived realism has upon cultivation or social reality theory.

In conclusion, this study explored two distinct individual differences (gender and empathy) in regards to the consumption of either real or fictionalized violence. The results indicate that the perceived realism of mediated violence affects certain subgroups of people in regards to their aversion. These data suggest that females, especially those high in empathy, do not emotionally distinguish between real and fictional violence. Based on their own responses, it does not appear to be an inability to do so but more an unwillingness to do so. Whereas males, especially those low in empathy, are quite capable of separating real mediated violence from fictionalized mediated violence. This research is an important addition to literature, as it highlights specific individual differences in violent media consumption.

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