The Impact of Video Games on Altruistic Behavior

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**Abstract**

Previous research has documented that playing violent video games has various negative effects on social behavior, in that it causes an increase in aggressive behavior and a decrease in prosocial behavior (Wilson, 2008). In contrast, there has been much less evidence on the effects of nonviolent video games in regards to prosocial behavior (Greitemeyer, 2010). This study had 38 participants play a video game (Call of Duty: Modern Warfare 2, or Little Big Planet) for fifteen minutes. A modified version of the Self-Report Altruism Scale was used to measure the impact of video game content on helping behavior. The results that were found supported the first hypothesis, in that, participants who interacted with the nonviolent video game showed more willingness to help strangers than participants who interacted with the violent video game. The second hypothesis however was not supported by the results. Female participants were not more likely to help strangers than male participants overall.

The Impact on Altruistic Behavior by Video Games

Violence has become a part of American life. Whether it is through the television or video games, violence in America sells and everyone in the entertainment business knows it. One study found that 64% of all of the E-rated video games created from 1985-2000 involved some sort of physical violence (Wilson, 2008). An E-rated game is available for everyone to play; it does not require someone over 18 to buy the game. A child can buy an E-rated game and partake in the violence required. To show how intertwined the lives of Americans are with video games, a survey was done on adolescents and showed that 97% of 1,102 participants play a video game and of that statistic only one percent of boys and three percent of girls have not played video games (Bers, 2010). With the amount of gaming done by people, a negative correlation has been found between gaming and the tendency to help someone (Bers). Not only do people tend not to help after playing a violent video game, they are also selective when they help; adolescents are more likely to help when the deed is localized; community work or volunteer opportunities (Bers).

Altruism and egoism are very similar with one another and many people do not know where to draw the line. Altruism can be defined as “a behavior that is being carried out by an individual to benefit another without any external reward” (Piliavin, Jane A. 2009). Those who are egoistic, however, are concerned with the reward they will receive after helping someone. Many researchers believe that the idea of altruism is simply that, an idea, and it does not exist (Piliavin). The only type of helping behavior that exists is egoism because many of us believe that if we do go out of our way or stray from the path, that we are entitled to a reward of some kind. With that however, other researchers believe that altruism does exist and is a learned behavior from when everyone is a child (Ellet, 2008). Children learn that by helping, they avoid a punishment and are also rewarded. As many of those children get older, their reason for helping changes from avoiding punishment to they if they did not do anything, they would not live up to their values.

The Bystander Effect states that the more bystanders that are present in an emergency or a nonemergency, the more likely someone will not help (Bereczkei, 2010). Those who say they “would not live up to their values” in this situation, may not feel guilty because they would not feel as responsible as they would if there were fewer bystanders. To increase the likelihood of aid in a situation, according to the bystander effect, the “higher costs for refusing to help will result in increasing the costs of helping” (Bereczkei). Many theories are used to try to explain why people who need help are seldom helped.

The personality of the bystander too has an impact on if they will help if they encounter a situation where someone is in need of help. People low on agreeableness, cooperation, empathy, and trusting may have a low level of prosocial motivation to help (Bereczkei). Whereas someone high on those things are more likely to have a high level of prosocial motivation and are more likely to help an individual even if the costs of helping that person is high. An individual who has played a violent video game and has a low level of prosocial motivation to help, are less likely to help than an individual who has a high level of prosocial motivation to help and have played a violent video game (Bereczkei).

Costly signaling theory states that generosity is one means by which individuals gain social recognition in their group and thus gain reproductive benefits (Bereczkei, 2007). For this signal to be valid and reliable, it needs to be costly through energy, risk, and time. Costly signaling theory does not follow along with altruism, but falls more along the category of egoism simply because the individual helping is looking for a reward along the lines of reproduction. According to this theory, it does not matter which type of video game an individual plays; the only thing that matters is if the individual perceives the situation as giving them social recognition (Bereczkei). People are more likely to help if they know they will receive social recognition for it. Research on this theory has proven that people do prefer to be around others when they make charitable contributions and the theory would state that it is because they believe their chances for reproduction would increase (Bereczkei).

Social facilitation is also similar to costly signaling theory in that people are more willing to help another when that person is around a group of people. This theory, though, contradicts the idea of the bystander effect because studies have shown that people are less likely to help if there are more bystanders. Thus, if an individual has recently played a prosocial video game and encounters a situation, they will be more likely to help if they are surrounded by a group of people. One reason for that could be that the reward for helping will be greater because other people will have witnessed their helping behavior.

Another theory is the General Learning Model (GLM), which states, “aggressive contents of violent media instigate aggressive behavior through their impact on the person’s internal states” (Greitemeyer, 2010). Meaning that violence of any media (video games, TV, or movies) increase the likelihood of aggression in people. After playing an aggressive and violent video game, it has been shown that there is an increase in antisocial behavior, which leads to a decrease in prosocial behavior. The research by Greitemeyer showed that the participants who played the prosocial video game were more willing to help in every condition than the participants who had played the violent or the neutral video game.

These theories try to explain helping behavior across both genders. It has been found however, that women are more likely to help when the risks are high (Matlin, pg. 191). During the Nazi holocaust, it was found that 61% of the people that risked their lives to help the Jewish communities were women. Another instance where the risk of death is high is in organ donations. When it came to kidney donations, 57% of the donators were women (Matlin, pg. 191). It is not known because most altruistic behavior from woman is a private matter. If word was spread that a woman was helping a Jew during the holocaust, death was imminent for a woman. On the other side, men were more likely to help when the situation required strength and size. A situation that is more likely to become public knowledge (e.g. helping someone from drowning).

The purpose of this present study was to examine the effects of violent and nonviolent video games have on the participant’s willingness to help strangers in many different situations. The study done by Greitemeyer, 2010 suggests that the more the prosocial the video game, the greater the chances for helping behavior. The opposite can be said for violent video games. Exposure to a violent video game will lessen the chances for helping behavior. Those who play violent video games for a period of time will be more likely to exert aggressive behavior that will negatively influence prosocial and helping behavior.

The prediction stems from the Greitemeyer study, in that the participants engaging in the nonviolent video game would score higher on the modified Self-Report Altruism Scale (Rushton, 1981) than those who engage in the violent video game. The second hypothesis stems from the research discussed by Matlin, in that females in either of the two groups would be more willing to help those in need than the males participating in the study.

**Method**

**Participants**

Thirty-eight, mostly college aged students enrolled in lower-level courses at Minnesota State University Moorhead participated in exchange for extra credit, contingent upon approval of their course professors. The study had 25 male participants (14 played Call of Duty, 11 played Little Big Planet) and 13 female participants (five played Call of Duty, eight played Little Big Planet). Their ages ranged from 18 years old to 49 years old.

**Materials**

Two different video games were used for this study. Both video games were played on the PlayStation 3 (PS3) console: Call of Duty: Modern Warfare 2 (MW2) and Little Big Planet. See Appendix A for description of the games and screenshots. The games were played on a 32-inch flat screen TV.

MW2 is intended for mature audiences. MW2 is a very commonly played video game throughout the nation. MW2 has sold over 20 million copies worldwide and is second as the best-selling video game of all time in the United States (Wikipedia). It is a first-person shooter video game. The participant played the story mode of the game and started the game assaulting a Russian airport with a terrorist in the game. They were asked to shoot citizens and police to stay alive until that mission is completed. This game was chosen because a violent game was needed for the study and it is slightly more realistic than other violent video games. Instead of killing mythological creatures, the participants were asked to kill cops and unarmed citizens. The game was used to see if there was a difference in self-reported altruistic behaviors immediately after playing this violent game compared to a nonviolent video game – Little Big Planet.

Little Big Planet is a platforming game. A platforming game consist of the character running forward in the scenario with a few different obstacles in the way, with the end result being getting to the finish line. The game revolves around the player’s control of a small character, known as a Sackboy or Sackgirl (owing to their appearance), in a variety of platforming scenarios. The game features a set of pre-built levels for the player to explore. The game was used as a nonviolent video game because it provides humor to those who play it. Little Big Planet was also used to see if there is a difference in helping behavior from the participants playing this video game compared to that MW2.

Participants were given the Self-Report Altruism Scale (see Appendix B) and they rated twenty questions using a 5-point scale (‘never,’ ‘once,’ ‘more than once,’ ‘often,’ ‘very often’) that measured each participant’s willingness to help an individual in various situations (e.g.; I will point out a clerk’s error (in a bank, at the supermarket) in undercharging me for an item).

They provided demographic information about their age, gender, previous game play, and two favorite games. The reason why the demographic information was required is because the study was looking to see if there is a difference in helping behavior between genders. Participants were asked to provide the number of hours that they spend playing video games and what some of their favorite games were, simply for the prevention of confounding variables. If a participant is regularly playing video games similar to MW2 or Little Big Planet, they may not be as affected by the game play and would thus result in confounding variables.

**Procedure**

Before any research was conducted, the participant was directed to read the informed consent and was free to ask any questions they had regarding the research. The participants were tested individually in a quiet laboratory room. The researcher was in the room with the participant, but was not watching the participant play the video game. The researcher was strictly in the room to answer questions if questions happened to arise. Participants were randomly assigned to one of the two video game conditions and played the assigned game for fifteen minutes. After game play, participants completed the Altruism Scale and then the demographic information. Participants were then given a debriefing form and proof of their participation.

**Results**

Each question on the Self-Report Altruism Scale (SRA) had a rating of one through five. An example of a question on the SRA included “I will help push a stranger’s car out of the snow.” The participant would rate that question using one of the five possibilities. The researcher then calculated their average SRA score by adding up the answers and then dividing by the number of questions. Table 1 displays means and standard deviations for each of the video game-gender conditions. A 2x2 factorial ANOVA was conducted to see if the type of video game played would influence one’s willingness to help, as well as whether type of game would interact with gender. As expected, participants who had played the nonviolent video game reported more prosocial behavior (*M* = 3.59, *SD* = .46) than the participants who had played the violent video game (*M* = 2.81, *SD* = ­­.46), *F* (1, 37) = 21.04, *p* < .001, *r2 = .*452 (see Figure 1). In contrast, there were no significant differences between the gender of participants and their willingness to help in different situations *F* < 1.

**Discussion**

The present research shows that playing video games with nonviolent content is positively related to increases in different kinds of prosocial behavior. Participants who had played the nonviolent video game were more likely to report helping a stranger. Previous research has shown that exposure to violent video games decreases prosocial behavior (Greitemeyer). The present research complements these findings by showing that playing a violent video game will decrease one’s willingness to help strangers in different situations. However, it appears as though gender is not important when it comes to altruistic behavior. Although prior research has shown that women are more likely to help, that has been in real world situations. It may be that a hypothetical situation does not elicit the same effect.

The GLM (General Learning Model) could provide a useful framework for explaining the effects of video games on altruistic behavior. The GLM states that video games teach whatever concepts are repeatedly rehearsed within them (Greitemeyer). The content in a video game being played is affecting the player’s internal state. In turn, the player’s internal state is affecting their prosocial or altruistic behavior. For example, someone who plays a violent video game increases the accessibility of antisocial cognitions that influence antisocial behavior.

The present research only studied the short-term effects of playing nonviolent video games. “Media effects on short-term social behavior are mostly due to priming of existing will-encoded cognitions” (Greitemeyer, pg. 210). Long-term effects of exposure to media however, depend on learning and the internalization of beliefs, scripts, and schemas. Adults are more susceptible to priming because they have already learned and internalized many different scripts, beliefs, or schemas.

The attitude of research participants during that day may have influenced their likeliness to help as well. A participant who has a negative attitude because of personal reasons would be likely to score less than a participant who has a positive attitude. A participant may also feel frustration or embarrassment while playing the video game because they do not know the controls and thus are not playing the game well. Feeling frustration or embarrassment will thus influence altruistic behavior (Bereczkei). The researcher being in the room during the study may have also influenced their behavior. The participant may have perceived that the researcher was judging the way they were playing the video game or that the researcher was judging their answers on the SRA, thus influencing the participants likeliness to report better helping behavior.

Exposure to media with violent content has serious consequences. It is suggested that children should be prevented from viewing such content. A child exposed to violent media is more likely to display aggressive behavior, whereas a child exposed to prosocial media will increase a child’s prosocial behavior (Greitemeyer). The present research suggests that video games with nonviolent content could be used to improve social behaviors.

Although it is shown that prosocial/nonviolent video games will improve social behavior, most children prefer to play violent video games. It has been found that of all video games developed, 70%-85% of them contained violence (Greitemeyer). There is clearly a need for prosocial or nonviolent video games. Convincing the video game industry to create these types of games would be a crucial first step.

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Table 1

*Average SRA score for Across Gender and Video Game Conditions*

MW2\* Male MW2 Female LBP\* Male LBP Female

*M* 2.77 2.91 3.65 3.52

*S* .498 .344 .482 .440

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*\* Video Game Condition (MW2 = Modern Warfare 2; LBP= Little Big Planet)*



Note: The words “*Figure 1*.” Above should be italicized! The font should also be 12 pt.

Appendix A

Description of Video Games

**Call of Duty: Modern Warfare 2**

Call of Duty: Modern Warfare 2 (MW2), is rated M for mature audiences. MW2 is a first-person shooter video game that is played on all game consoles. MW2 has three different types of game play: Cooperative, Campaign, and Multiplayer (Online). Participants will be playing MW2 on a PlayStation 3 and they will play be playing the campaign style of game play. The campaign is the story mode where the individual will play the protagonist for a certain mission. The participant will play Joseph Allen in the mission ‘No Russian.’ The character Joseph Allen will be working alongside the terrorist Vladimir Makarov and will assault a Russian airport, via shooting citizens and police.

**Little Big Planet**

Little Big Planet is rated E for everyone. The game revolves around the player’s control of a small character, known as a Sackboy or Sackgirl owing to their appearance, in a variety of platforming scenarios. A platforming game involves the Sackboy character running in a straight line, with a few different obstacles in the way, but the result is to finish the platforming scenario. The game features a set of pre-built levels for the player to explore. Sackboy can run, jump, and grab certain objects. These objects can have the designation of being purely for mobility, such as swinging, or they can be pushed, pulled, switched, or operate in other forms of function. The player uses these abilities in several ways: to play and explore the environments that come with the game, which feature platforming elements such as jumping, pushing, grabbing, and running.

Appendix B

The Self Report Altruism Scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Never | Once | More than once | Often | Very often |
| 1. I will help push a stranger’s car out of the snow. |  |  |  |  |  |
| 1. I will give directions to a stranger. |  |  |  |  |  |
| 1. I will make change for a stranger. |  |  |  |  |  |
| 1. I will give money to a charity. |  |  |  |  |  |
| 1. I will give money to a stranger who need it (or asked me for it). |  |  |  |  |  |
| 1. I will donate goods or clothes to a charity. |  |  |  |  |  |
| 1. I will do volunteer work for a charity. |  |  |  |  |  |
| 1. I will donate blood. |  |  |  |  |  |
| 1. I will help carry a stranger’s belongings (books, parcels, etc.). |  |  |  |  |  |
| 1. I will delay an elevator and hold the door open for a stranger. |  |  |  |  |  |
| 1. I will allow someone to go ahead of me in a lineup (at photocopy machine, in the supermarket). |  |  |  |  |  |
| 1. I will give a stranger a lift in my car. |  |  |  |  |  |
| 1. I will point out a clerk’s error (in a bank, at the supermarket) in undercharging me for an item. |  |  |  |  |  |
| 1. I will let a neighbor whom I don’t know too well borrow an item of some value to me (e.g., a dish, tools, etc.) |  |  |  |  |  |
| 1. I will buy ‘charity” Christmas cards deliberately because I know it is a good cause. |  |  |  |  |  |
| 1. I will help a classmate who I do not know that well with a homework assignment when my knowledge is greater than his or hers. |  |  |  |  |  |
| 1. I will before being asked, voluntarily look after a neighbor’s pets or children without being paid for it. |  |  |  |  |  |
| 1. I will offer to help a handicapped or elderly stranger across a street. |  |  |  |  |  |
| 1. I will offer my seat on a bus or train to a stranger who was standing. |  |  |  |  |  |
| 1. I will help an acquaintance to move households. |  |  |  |  |  |