Examining the Relationship Between Game Type, Player Disposition and Aggression

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ABSTRACT
As technology advances the need for more comprehensive analyses of the relationship between human aggression and gaming increases. First Person Shooter gaming environments provide realistic opportunities for many interactions between players. Violent and aggressive video games have been blamed for many aggressive acts. Early meta-analyses of gaming and aggression concluded that gaming does increase aggression, although at levels lower than that of television and other media. More recent meta-analyses claim that there is no correlation between gaming and aggression. However, previous studies do not consider the possible effect of a live opponent on player aggression and therefore the current study includes this as a putative factor in gaming and aggression. Results indicate that neither the disposition of the opponent (confederate) nor the aggressive level of the game type affected participant aggression.

1. INTRODUCTION
Horrific aggressive acts such as violence and assaults in the real world are more and more frequently being attributed to online media such as gaming or other web media. News agencies have been turning the focus on these media and drawing links between various acts of violence such as school shootings (CBC News, 2006), gaming, and other online media. Some news agencies have even gone as far as claiming a relationship between school shootings and the ratings of violent video games (CBC News, 2000). Teachers are also stating a concern about the negative effects of the interactions of the youth and some cyber media (Schriever, 2007).

Sherry’s (2001) meta-analysis on violent videogames and aggression concluded that the majority of studies conducted on aggression and gaming has found that there is actually a positive relationship between gaming and aggression. However, a more recent meta-analysis conducted by Ferguson (2007) concluded that there is no relationship between gaming and aggression, hinting at a publication bias as a contributing factor for the negative focus and finding of gaming and aggression studies.

Interactive gaming is an extraordinary way for people to entertain themselves and interact with others. An estimated 90% of all North American children experience video gaming at some point of their childhoods. Those who choose gaming as a frequent method of recreation are usually white males who can better relate to the games designed by people with similar interests (Fajardo & Leutenegger, 2006). While the results of studies of video game violence on aggression have been equivocal, a relatively new trend in gaming research focuses on player disposition. Vallius, Manninen, and Kujanpaa (2006) found that interaction with a character who had a sharing and co-operative personality was likely to increase the pleasure of game play, while one character designed to be non-helpful and violent was reported by all players as the most negative aspect of the gaming environment. Vallius, Manninen, and Kujanpaa’s (2006) results indicate that opponent disposition may be a key factor in increasing aggression for some players. Williams and Clippinger (2002) subjected players to a computer opponent based condition and a human opponent based version of the same game. After being exposed to either the human or computer opponent conditions, players’ aggressive feelings were measured using the State Hostility Scale. Players who were in the human condition actually experienced a decrease in aggressive feelings while those in the computer based opponent condition showed an increase (Williams & Clippinger, 2002).

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2. METHOD

2.1 Participants

Forty Algoma University undergraduate students volunteered to participate in this study. Those students who were enrolled in psychology courses were given bonus grades for participating in thesis studies.

2.2 Apparatus

This experiment utilized two Xbox (Microsoft) compatible TV monitors, two Xbox gaming systems and controllers, as well as headsets. A router (Lynksis, Cisco systems) was also used to connect the consoles through LAN cables. Two copies of the First Person Shooter game, Doom 3 (ID Soft) were needed to allow simultaneous game play for both the participant and experimenter. For the purposes of measuring aggression, the Buss - Perry aggression questionnaire was selected, having been used previously in related gaming and aggression studies (see Appendix). An instructional diagram of game controls was also produced using Photo Shop for the instruction and guidance of participants. In order to obtain information regarding the players' experience and sex, a personal gaming information form was also distributed (see Appendix 3). Two adjacent offices were also used for conducting this experiment.

2.3 Procedure

After being randomly assigned to one of the four conditions and signing a consent to research form, participants were asked to sit and play a game of Doom 3 for a period of five minutes and were told that they were being observed for reasons other than aggression (ie., hand-eye coordination). The participants were subjected to their condition upon meeting the experimenter. In this experiment there were two levels of opponent disposition. If assigned to the aggressive opponent condition, the participants were greeted with a negative tone and facial expression and were shown no social politeness or pleasantness; they were also given no instruction on how to play. If assigned to the friendly opponent condition, participants were greeted with pleasant demeanor, tone and facial expression. Participants were instructed on how to play, assured that it would a pleasant experience, and informed that if they needed any help, the experimenter would be more than willing to assist via the headphones.

The participants then entered one of two game conditions of either cooperative (Mars City North) or death match (Outpost) game modes and levels, selected for their relatively small size and easy manoeuvrability. The cooperative game play in Doom 3 is designed for players to work as a team in order to complete their mission. The Death Match mode in Doom 3 is a more competitive game mode where a player's goal is to kill their opponent and beat them in points. Both game levels and conditions were determined by trial and error during three pre-testing phases. The aggressive opponent script included taunting, mild insults, and general rudeness and putting the participant down for his/her performance. All interactions in the aggressive condition were given with a lack of cooperation and general negativity of tone. The friendly opponent script included a pleasant tone and general encouragement along with statements. Participants in the cooperative condition were also helped whenever they had questions about how to play or where to go during game play. After the participants had played Doom 3 for a span of 5 minutes they were informed that they could open and fill out the envelopes containing the aggression questionnaire and personal gaming information. The participants were debriefed after completing the aggression questionnaire. The debriefing included being informed of the purpose and application of the study, as well as being informed of availability, advice, follow up and counselling if needed. The participants were then thanked and then their information was recorded.

3. RESULTS

Aggression scores were analyzed using a 2x2 factorial ANOVA, with game type (cooperative, death match) and opponent disposition (friendly, aggressive) as independent variables. There was no significant effect of game type and player disposition on aggression increase $F (1,32)= 0.08664, p= 0.7704$. Although there were no significant findings of main effect, it was decided to conduct Tukeys post hoc analysis ($p<0.05$) in order to determine possible trends. Analysis of game type aggression interactions found that there was a slight relationship between game type and aggression increase. Cooperative game types actually tended to increase player aggression in both the friendly and aggressive conditions, $F (1,32)= 0.08664 p= 0.10241$. Gamers had a slightly higher trend towards high levels of aggression than did non gamers, although this was not found to be significant. Most of the scales--aggression, physical aggression, hostility and verbal aggression-- had no significant levels of aggression, however all participants had a significantly higher rating on verbal aggression.
4. DISCUSSION

First Person Shooter game environments provide realistic opportunities for many interactions between players. Early meta-analyses of gaming and aggression conducted by Sherry, (2001) concluded that gaming does increase aggression, although at levels lower than that of television and other media. More recent meta-analyses conducted by Ferguson, (2007) claim that there is no correlation between gaming and aggression. This study's replication of results similar to those stated by Ferguson (2007) reinforces the idea that video games do not increase aggression. There were some interesting results derived from this study; those who do play video games for recreation had a slightly higher trend towards high levels of aggression than did non gamers. Among all subscales of the aggression questionnaire-- hostility, aggression, physical aggression, and verbal aggression-- all groups had significantly high levels of verbal aggression. This significant level of verbal aggression may indicate that just being talked to during video games may make users more verbally aggressive. Additional research focusing specifically on player interactions rather than the game factors should be conducted. Approximately 90% of Canadians and Americans have played video games at some point in their lives, therefore if there are negative affects of playing these games it is important that they be uncovered.

5. CONCLUSION

First Person Shooter game environments provide realistic opportunities for many interactions between players. Early meta-analyses of gaming and aggression conducted by Sherry, (2001) concluded that gaming does increase aggression, although at levels lower than that of television and other media. More recent meta-analyses conducted by Ferguson, (2007) claim that there is no correlation between gaming and aggression. This study's replication of results similar to those stated by Ferguson (2007) reinforces the idea that video games do not increase aggression. There were some interesting results derived from this study; those who do play video games for recreation had a slightly higher trend towards high levels of aggression than did non gamers. Among all subscales of the aggression questionnaire-- hostility, aggression, physical aggression, and verbal aggression-- all groups had significantly high levels of verbal aggression. This significant level of verbal aggression may indicate that just being talked to during video games may make users more verbally aggressive. Additional research focusing specifically on player interactions rather than the game factors should be conducted. Approximately 90% of Canadians and Americans have played video games at some point in their lives, therefore if there are negative affects of playing these games it is important that they be uncovered.

6. AUTHOR NOTES

Portions of this research were submitted to the Department of Psychology, Algoma University in partial fulfillment of the degree of Bachelor of Arts (Honours). We thank Laurie Bloomfield for her help and comments throughout data collection and analysis and Isabelle Michaud for comments on the manuscript.

7. REFERENCES


8. APPENDIX

Aggression rating scale:
Using the 5 point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing you. Place your rating in the box to the right of the statement.

1 = extremely uncharacteristic of me
2 = somewhat uncharacteristic of me
3 = neither uncharacteristic nor characteristic of me
4 = somewhat characteristic of me

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1 = extremely uncharacteristic of me
2 = somewhat uncharacteristic of me
3 = neither uncharacteristic nor characteristic of me
4 = somewhat characteristic of me
5 = extremely characteristic of me

1) Some of my friends think I am a hothead
2) If I have to resort to violence to protect my rights, I will.
3) When people are especially nice to me, I wonder what they want.
4) I tell my friends openly when I disagree with them.
5) I have become so mad that I have broken things.
6) I can’t help getting into arguments when people disagree with me.
7) I wonder why sometimes I feel so bitter about things.
8) Once in a while, I can’t control the urge to strike another person.
9) I am an even-tempered person.
10) I am suspicious of overly friendly strangers.
11) I have threatened people I know.
12) I flare up quickly but get over it quickly.
13) Given enough provocation, I may hit another person.
14) When people annoy me, I may tell them what I think of them.
15) I am sometimes eaten up with jealousy.
16) I can think of no good reason for ever hitting a person.
17) At times I feel I have gotten a raw deal out of life.
18) I have trouble controlling my temper.
19) When frustrated, I let my irritation show.
20) I sometimes feel that people are laughing at me behind my back.
21) I often find myself disagreeing with people.
22) If somebody hits me, I hit back.
23) I sometimes feel like a powder keg ready to explode.
24) Other people always seem to get the breaks.
25) There are people who pushed me so far that we came to blows.
26) I know that “friends” talk about me behind my back.
27) My friends say that I’m somewhat argumentative.
28) Sometimes I fly off the handle for no good reason.
29) I get into fights a little more than the average person.