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What is This?

Effects of Avatar Race in Violent Video Games on Racial Attitudes and Aggression

Grace S. Yang[1], Bryan Gibson[2], Adam K. Lueke[2],
L. Rowell Huesmann[1], and Brad J. Bushman[3,4]

Abstract

The media often link Black characters and violence. This is especially true in video games, in which Black male characters are virtually always violent. This research tested the effects of playing a violent game as a Black (vs. White) avatar on racial stereotypes and aggression. In Experiment 1, White participants ($N = 126$) who played a violent video game as a Black avatar displayed stronger implicit and explicit negative attitudes toward Blacks than did participants who played a violent video game as a White avatar or a nonviolent game as a Black or White avatar. In Experiment 2, White participants ($N = 141$) who played a violent video game as a Black (vs. White) avatar displayed stronger implicit attitudes linking Blacks to weapons. Implicit attitudes, in turn, related to subsequent aggression. Black violent video game avatars not only make players more aggressive than do White avatars, they also reinforce stereotypes that Blacks are violent.

Keywords

violent video games, implicit racism, prejudice, African American, Black, aggression

> The media's the most powerful entity on earth. They have the power to make the innocent guilty and to make the guilty innocent, and that's power. Because they control the minds of the masses.
>
> Malcolm X

By frequently linking Black characters with violence, the media have the power to perpetuate the stereotype that Blacks are violent individuals. This stereotype may be more prevalent in video games than in any other form of media because being a Black character in a video game is almost synonymous with being a violent character (e.g., Burgess, Dill, Stermer, Burgess, & Brown, 2011). Further, exposure to Black video game characters has been shown to negatively influence players' subsequent judgments of an unrelated Black individual (Dill & Burgess, 2012). No research, however, has examined how violent video games with Black avatars affect attitudes toward Blacks in general. As video game graphics have improved, game developers can now create realistic avatars that vary on a number of dimensions, including race. Recent research has shown that the avatar played by a gamer can have important effects on gamer outcomes. For example, one study found that participants who played a violent video game as an avatar of their own design were more aggressive than those playing an avatar assigned to them (Hollingdale & Greitemeyer, 2013). The current research focuses on how avatar race can affect gamers. Given the prevalent stereotype that Blacks are violent (Devine, 1989; Eberhardt, Goff, Purdie, & Davies, 2004; Payne, 2001), we propose that playing a video game in a

violent way as a Black avatar can reinforce and increase these stereotypes. Playing the game in a nonviolent way, however, is unlikely to have negative effects, as the player is not witnessing (or causing) the Black avatar to act in a stereotypic, violent way. Likewise, playing a violent video game as a White avatar should not reinforce or increase violent stereotypes of Blacks.

There are theoretical reasons to make these predictions. Exposure to a specific race that is presumed to be associated with violence and aggression (i.e., Blacks) should activate the existing negative stereotypes that Blacks are characteristically more aggressive and violent than other racial groups. Exposure to a violent stimulus related to an avatar's Black race should increase the accessibility of aggressive cognitions in memory stereotypical of that race (e.g., ''Black men are violent,'' ''Black men are dangerous''). Such increased accessibility of negative beliefs about Black people may also activate other semantically related thoughts, feelings, and behavioral tendencies (Berkowitz, 1990), leading to more negative attitudes

[1] University of Michigan, Ann Arbor, MI, USA
[2] Central Michigan University, Mount Pleasant, MI, USA
[3] The Ohio State University, Columbus, OH, USA
[4] VU University Amsterdam, Amsterdam, Netherlands

Corresponding Author:
Brad J. Bushman, The Ohio State University, 3127 Derby Hall, 154 North Oval Mall, Columbus, OH 43210, USA.
Email: bushman.20@osu.edu

toward Blacks. Furthermore, by playing a game violently as a Black avatar the associations between race and aggression may be strengthened through evaluative conditioning (Walther, Weil, & Dusing, 2011). Some research has shown that prejudice can be reduced through evaluative conditioning processes (Olson & Fazio, 2006). We suggest that pairing a stereotyped group member with stereotypical behavior could strengthen prejudiced attitudes through evaluative conditioning.

We examine both implicit and explicit attitude measures. Implicit attitudes are thought to be primarily associative in nature (Gawronski & Bodenhausen, 2006). The Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) provides a measure of the association between racial categories and positive and negative concepts and has been shown to be sensitive to priming and evaluative conditioning. In one study, for example, exposed some participants to positive Black exemplars (e.g., actor Denzel Washington) and negative White exemplars (e.g., serial killer Jeffrey Dahmer), whereas others were exposed to negative Black exemplars (e.g., boxer Mike Tyson; Dasgupta & Greenwald, 2001) and positive White exemplars (e.g., actor Tom Hanks). The results showed that participants exposed to positive Black and negative White exemplars showed less negative implicit attitudes toward Blacks than did participants exposed to negative Black and positive White exemplars. We propose that playing a violent video game as a Black avatar will provide exposure to stereotype-consistent violent actions, thus priming and strengthening those negative associations. Thus, we predict that playing a violent video game as a Black avatar will lead to more negative implicit attitudes toward Blacks.

Explicit negative attitudes about Blacks should also be altered by exposure to stereotype-consistent actions in the video game. Witnessing (and in fact, causing) such actions when playing a violent game as a Black avatar should increase access to memories of violent actions by Blacks and consequently should enhance the encoding of explicit negative attitudes about Blacks. This should lead players to alter their explicit judgments of Blacks to be more negative.

Playing violent video games as a Black avatar should not only influence attitudes toward Blacks, it should also influence aggressive behavior above the effect of simply playing a violent video game. This is because the activation of implicit ''Blacks are violent'' stereotypes is hypothesized to lead to more aggressive behavior and because playing as a violent Black avatar should directly prime aggressive thoughts, feelings, and behavioral tendencies in memory, which should increase the likelihood of aggressive behavior (Berkowitz, 1990). Previous research has shown that stereotype activation can lead to the implementation of stereotype-consistent behavior (e.g., Bargh, Chen, & Burrows, 1996; Galinsky, Wang, & Ku, 2008; Wheeler, Jarvis, & Petty, 2001). Thus, activating stereotypes that Blacks are violent and dangerous should increase subsequent aggressive behavior. Previous research has consistently shown that violent video games can increase aggressive behavior (Anderson et al., 2010). In addition, other research suggests that watching a Black video game avatar

increases accessibility to violent constructs (Burgess et al., 2011). No previous research, however, has examined the effects of avatar race in violent video games on aggression. We predict that playing a violent video game as a Black avatar will also increase aggression more than playing the same violent game as a White avatar.

Overview

The present research explored the consequences of playing a violent video game as a Black avatar on the implicit and explicit attitudes (Experiments 1 and 2) and on the aggressive behaviors (Experiment 2) of White participants.

Experiment 1

Experiment 1 provides an initial test of the hypothesis that playing a violent video game as a Black avatar increases both implicit and explicit negative attitudes toward Blacks. White participants were randomly assigned to play a video game with an objective that did or did not require violence to complete, as a Black or White avatar. After playing the game, participants completed measures of implicit and explicit negative attitudes toward Blacks. We predicted that both implicit and explicit attitudes toward Blacks would be most negative for participants playing a violent game as a Black avatar.

Method

Participants

Participants were 126 White university students (60% males) who received extra credit. No effects were found for participant sex in either experiment, so we do not mention it further.

Procedure

Participants were told that the researchers were studying the relation between video game skills, personality, and reaction time. After giving their consent, participants played *Saints Row 2* for 20 min on a Playstation 3 video game console that was connected to a 42″ (106.7 cm) high-definition JVC television. *Saints Row 2* is similar to the popular *Grand Theft Auto* series, but the avatar's clothing, race, and other characteristics can be varied. Participants were randomly assigned to play the game as either a Black or White male avatar. Clothing and build were held constant across conditions. Other features, however, were manipulated in stereotype-consistent ways. These included manipulations of physiological features (skin color and facial features), English usage (the Black avatar used a stereotypical inner city dialect), and hairstyle (cornrows for the Black avatar and a short, conservative style for the White avatar). Prior to the participants' arrival at the experiment, the experimenter set up the game with the appropriate avatar and rotated the game view, so that the avatar was seen face on by the participant when he or she started playing. To play the game, the participant had to alter the perspective of the video representation

such that the screen showed the back of the avatar in a typical "third-person" orientation. Although the facial features of the avatar were not visible during gameplay, the hairstyle and skin tone were constant reminders of avatar race.

Participants were also assigned randomly to play the game with a violent or nonviolent goal. In the violent condition, participants were told the goal was to break out of prison, which required them to kill many guards. Participants who completed the prison break before 20 min elapsed were given a chance to explore the city. In the nonviolent condition, participants were told that the goal was to find a chapel somewhere in the city and that they should avoid harming others during gameplay. Participants who found the chapel before 20 min elapsed were given a second goal (find "Club Koi"). Thus, the design was a 2 (Black vs. White Avatar Race) × 2 (Violent vs. Nonviolent Gameplay) between-subjects factorial design.

To measure implicit negative attitudes about Blacks, participants completed the race IAT in which photos of White and Black males and females are paired with "good" words (e.g., *wonderful, glorious, happy*) or "bad" words (e.g., *terrible, horrible, evil*). The photos and words were those used in the race IAT at the *Project Implicit* website. Slower responses to the "White/Bad" and "Black/Good" pairings than to "White/Good" and "Black/Bad" pairings are considered to be indicative of more negative attitudes about Blacks than Whites. IAT scores were calculated using the *D* method (Greenwald, Nosek, & Banaji, 2003). *D* is calculated by comparing the average response latency for one block of trials to the average response latency for the other block, adjusted for the pooled standard deviation (*SD*) across blocks. Latency for error trials are removed and replaced with the block average plus a 600-ms penalty for the incorrect response.

To measure explicit negative attitudes about Blacks, participants also completed the 8-item Symbolic Racism 2000 Scale (e.g., "It's really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites"; Cronbach's α = .66; Henry & Sears, 2002). A debriefing followed.

Results

Explicit Negative Attitudes About Blacks

A 2 (Black vs. White Avatar Race) × 2 (Violent vs. Nonviolent Gameplay) found the predicted interaction, $F(1, 122) = 3.90$, $p < .05$. A planned contrast confirmed that participants who played the game violently as a Black avatar had stronger explicit negative attitudes toward Blacks ($M = 19.2$, $SD = 2.3$) than did participants in the other conditions ($M = 17.8$, $SD = 3.1$), $t(122) = 2.59$, $p = .02$, $d = 0.47$ (see Figure 1). More specifically, in the violent gameplay condition, those who played as a Black avatar had stronger explicit negative attitudes toward Blacks than did those who played as a White avatar ($M = 17.8$, $SD = 3.3$) $t(122) = 1.95$, $p < .054$, $d = 0.35$. Neither main effect was significant, Fs < 2.5, p's > .12.
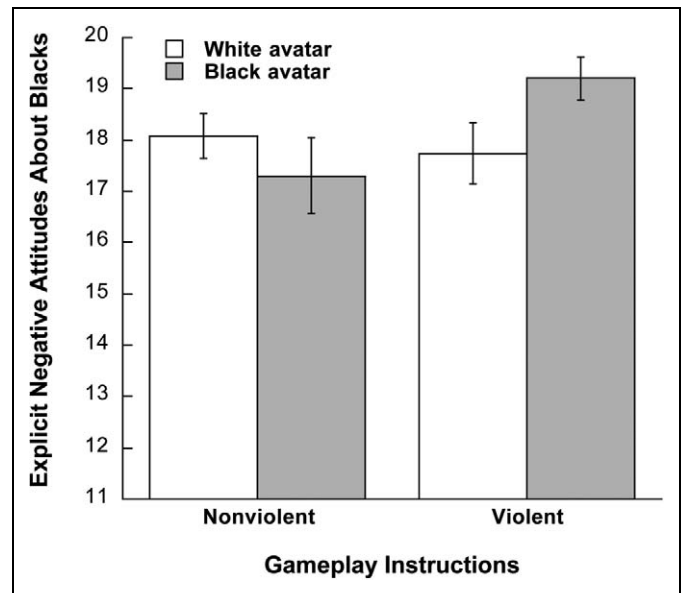

Figure 1. Explicit negative attitudes about Blacks for participants who played a nonviolent or violent video game as a White or Black avatar. Capped vertical bars denote 1 SE. SE = standard error.

Implicit Negative Attitudes About Blacks

A 2 (Black vs. White Avatar Race) × 2 (Violent vs. Nonviolent Gameplay) revealed no significant effects, p's > .15. Planned contrasts, however, showed that participants who played the violent version of the game as a Black avatar were more likely to associate Black faces with negative words on the IAT ($M = 0.48$, $SD = 0.40$) than were participants in the other conditions ($M = 0.32$, $SD = 0.33$), $t(117) = 2.19$, $p < .04$, $d = 0.40$ (see Figure 1). More specifically, in the violent gameplay condition, those who played as a Black avatar were more likely to associate Black faces with negative words on the IAT than did those who played as a White avatar ($M = 0.30$, $SD = 0.36$) $t(117) = 2.01$, $p < .05$, $d = 0.37$.

Discussion

Playing a violent video game as a Black avatar increased both implicit and explicit negative attitudes toward Blacks. Participants who played the violent version of the video game as a Black avatar had stronger associations between Blacks and negative constructs, and had higher symbolic racism scores, compared to all other participants and compared to participants who played the violent version of the game as a White avatar.

Experiment 2

Experiment 2 extends Experiment 1 by showing that playing a violent video game as a Black avatar (compared to playing as a White avatar) specifically increases Whites' attitudes about Blacks being violent. Experiment 2 also shows that playing a violent video game as a Black avatar (compared to playing as a White avatar) influences players to behave more aggressively
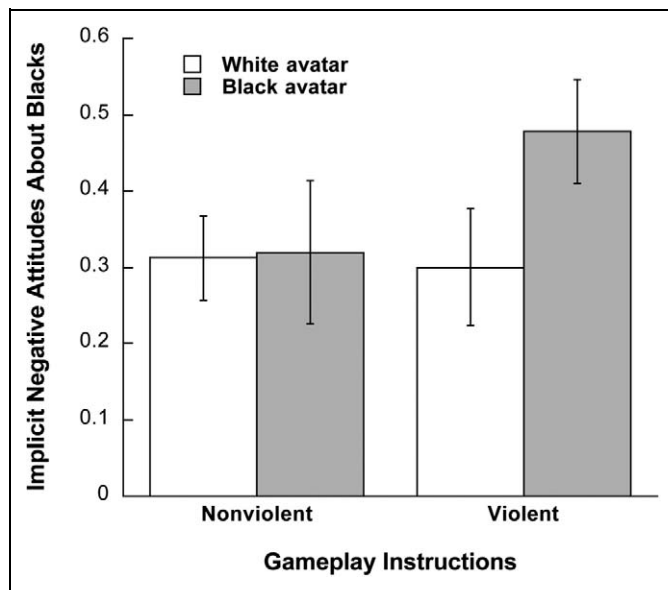
Figure 2. Implicit negative attitudes about Blacks for participants who played a nonviolent or violent video game as a White or Black avatar. Capped vertical bars denote 1 *SE*. *SE* = standard error.

after the game. In addition, we used different operational definitions of our key variables to enhance the generalizability of results. We also excluded the nonviolent game play condition in Experiment 2 because avatar race did not significantly affect explicit or implicit negative attitudes in players of the nonviolent game (see left-hand side of Figures 1 and 2).

Method

Participants

Participants were 141 White university students (65% female).

Procedure

After informed consent was obtained, participants were randomly assigned to play a violent game as either a Black or White male avatar. To increase the generalizability of findings (Wells & Windschitl, 1999), two violent games were used: (1) the wrestling game *WWE Smackdown vs. RAW 2010* and (2) the boxing game *Fight Night Round 4*.[1] As in Experiment 1, both games also use a third-person perspective, allowing the player to see the avatar's race throughout gameplay. Both these games have been rated at the highest level of violence by the Entertainment Software Rating Board and by a set of independent raters (Boxer, Huesmann, Bushman, O'Brien, & Moceri, 2009).

One of the most prevalent stereotypes about Blacks is that they are violent individuals (Devine, 1989; Eberhardt et al., 2004; Payne, 2001). Thus, in Experiment 2, we used an implicit measure of this stereotype. After playing the video games, participants completed a race-weapons IAT (Nosek et al., 2007), in which photos of Black and White male and female faces

were paired with photos of weapons (e.g., gun, hand grenade) versus harmless objects (e.g., cell phone, camera).

Next, participants completed what they thought was a different study on "food preferences" with an ostensible partner of the same sex. Both individuals indicated the foods they liked and disliked on a form, including spicy foods like hot salsa, and exchanged forms with their "partner." The "partner" gave the spicy foods the lowest possible rating (i.e., 1 = *strongly dislike*, on a 5-point scale). Through a rigged lottery, each person chose a food item for his or her partner from papers in a hat, and the participant always chose a paper that said "hot sauce." The participant was told that each person must eat all the food in order to provide an accurate evaluation of the food item. Participants first tasted the hot sauce themselves and then decided how much hot sauce to give their partner. The amount of hot sauce the participant chose for the "partner" was used to measure aggression (Lieberman, Solomon, Greenberg, & McGregor, 1999). A debriefing followed.

Results

Implicit Attitudes Linking Blacks to Weapons

As expected, participants who played a violent game as a Black avatar were more likely to associate Black faces with weapons on the IAT ($M = 0.61$, $SD = 0.53$) than were participants who played as a White avatar ($M = 0.39$, $SD = 0.35$), $t(137) = 2.83$, $p < .005$, $d = 0.48$.

Aggression

As expected, participants who played a violent game as a Black avatar gave their "partner," who disliked spicy food, 115% more hot sauce ($M = 0.062$ g, $SD = 0.031$) than participants who played as a White avatar ($M = 0.029$ g, $SD = 0.031$), $t(138) = 3.73$, $p < .0001$, $d = 0.64$. This is between a medium and a large effect size.

Mediation Analysis

Finally, we tested whether implicit attitudes that Blacks are violent mediated the effect of avatar race on aggressive behavior. As Figure 3 shows, playing a violent video game as a Black avatar (coded 1 vs. White avatar coded 0) increased implicit attitudes linking Blacks to weapons, which, in turn, increased aggressive behavior. The indirect effect of avatar race on aggression, through implicit attitudes, was significant ($b = 0.06$, $p = .008$; 95% bootstrap confidence interval with 10,000 samples = [0.0006, 0.15], which excludes the value 0; see Preacher & Hayes, 2004). Including the indirect effect in the model decreased the direct effect of avatar race on aggression, but it still remained significant, indicating that the effect of avatar race on aggression is only partially mediated through implicit attitudes that Blacks are violent.
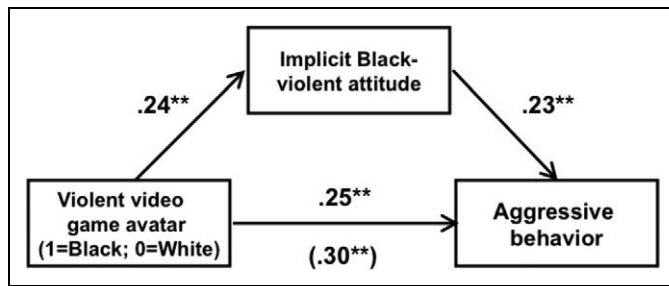
Figure 3. The mediating role of implicit Blacks-are-violent attitudes in the effect of playing a violent video game as a Black (vs. White) avatar on subsequent aggression. The parameters are standardized path coefficients. The value in parentheses is the direct effect of race of avatar on aggression without the mediating variable in the model.
**$p < .01$.

Discussion

Playing a violent video game as a Black avatar increased White participants' implicit attitudes that Blacks are violent. Participants who played a violent video game as a Black avatar had stronger implicit associations between Blacks and weapons and behaved more aggressively after playing the game than did participants who played as a White avatar. Their implicit attitudes that Blacks are violent, in turn, were linked to their actual aggressive behavior after the game was turned off. Additional analyses showed that this increase in implicit associations linking Blacks to violence partially mediated the effect of playing a violent game as a Black avatar on subsequent aggression. These findings suggest that playing a violent video game as a Black avatar strengthens players' attitudes that Blacks are violent and influences players to behave aggressively afterward. The results of this study reinforce the theoretical importance of priming as an implicit psychological process by demonstrating that the stereotyping process and its behavioral manifestation can be affected by the subtle racial cues in video game playing.

General Discussion

Taken together, the results of the two experiments suggest that a short-term experimental manipulation of the exposure to subtle racial cues in violent video games can affect players' implicit and explicit stereotyping and aggression. The present findings are consistent with previous research, which has shown that violent media prime aggression or aggression-related concepts, at least in the short term (e.g., Roskos-Ewoldsen, Klinger, & Roskos-Ewoldsen, 2007). The data are also consistent with the general finding of stereotype research that priming the racial stereotype automatically activates a link between Black men and negative constructs, such as violence and hostility (e.g., Abraham & Apiah, 2006; Dixon, 2007; Duncan, 1976). Unlike in other research, however, stereotype activation in the current study was achieved through a subtle change in the race of the game avatars participants played as in the game.

The implications of these findings are readily apparent. Violent games with avatars that look and act in ways that match the violence component of the Black stereotype directly affect the racial attitudes and stereotypes of White people playing the games. These White players are likely to come away from their game-playing experience with stronger negative feelings about Blacks and with stronger associations between Blacks and weapons. In addition, playing a violent game as a Black avatar is likely to lead players to behave even more aggressively shortly after the game than they would if they played a violent game as a White avatar.

Although at first blush this finding may appear to contradict earlier studies showing reduced prejudice toward out-group members after perspective taking, the perspective taking by participants in our study differs both conceptually and methodologically from conventional perspective-taking manipulations. In most previous studies, participants were explicitly asked to imagine how the target person (usually an out-group member) would think or feel in a given situation, or they wrote about a day in the life of the target person as a way to evoke empathy (e.g., Davis, Conklin, Simth, & Luce, 1996; Galinsky & Moskowitz, 2000). In some cases, participants were specifically instructed to avoid thinking about the target person in a stereotypical manner (e.g., Galinski, Wang, & Ku, 2008). In our study however, no such deliberate and conscious efforts were requested from the participants. Thus, by naturally taking the perspective of the avatar they played, the fact that the avatar enacted violent, stereotypically consistent actions led to an increase in implicit and explicit stereotyping among these participants.

Our research is the first to document the consequences of playing violent video games as a Black avatar on stereotyping Blacks in negative, violent ways. Violent video games can be a powerful source of information about the world that helps to shape the way in which players view the world. Given the variety of violent games available to consumers, Blacks may not be the only group to suffer due to their portrayal in violent games. In some games, for example, police are portrayed as brutal. Players witnessing or enacting these violent actions may develop a distrust of the police. Other violent games portray women in a sexualized and stereotypic way. These portrayals, too, may affect players' stereotypes about women (e.g., Dill, Brown, & Collins, 2008). These experiments provide one more piece of evidence that violent games can alter the beliefs of the player about the situations portrayed within the games.

The findings from Experiment 2 show that video games in which players control violent Black avatars are not just "harmless fun." Such games not only increase negative and violent stereotypes about Blacks, but they also increase aggressive behavior after the game has been turned off to a greater degree than when players control violent White avatars. This is a very troubling finding. This finding is particularly noteworthy, given that this increase in aggression occurred over and above any increase in aggression among participants playing the violent game as a White avatar.

Limitations and Future Research

However, more research needs to be done to elucidate the exact process through which this effect on aggression occurs. The effect of avatar race on aggression was partially mediated by the participants' increased associations between Blacks and violence, but the mental process through which this happens is unclear. It may be that the increased association between Blacks and violence increases the priming of aggressive scripts and beliefs over the priming that occurs from simply playing a violent game. Future research should examine this question.

Another question for future research is the effect that knowledge of the race of the target would have on aggression after playing a violent game as a Black avatar. Participants in Experiment 2 did not know the race of the target they were aggressing against. Future research can directly manipulate whether the aggression target is White versus Black. Likewise, all of our participants were White. Future research can test whether similar effects are obtained for Black participants.

Conclusion

In conclusion, our work documents the negative consequence of violent video games that employ violent Black avatars. Malcolm X argued that the media are powerful, even powerful enough to make "the innocent guilty." Our research suggests that people who play violent video games as violent Black characters are more likely to believe that Blacks are violent people, even if they are innocent of ever committing violence. Additionally, playing a video game as a violent Black character is likely to increase the player's aggression against others immediately afterward, even more than playing a violent game as White characters would.

Declaration of Conflicting Interests

Funding

Note

1. There were no differences between the wrestling and boxing video games, so they were combined for all analyses.

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Author Biographies

G**race S. Yang** has a Ph.D. in communication studies from the University of Michigan. She studies the effects of new media on human thought and behavior.

Bryan Gibson is a professor of psychology at Central Michigan University, USA. He studies media psychology, attitude formation, and consumer psychology.

Adam Lueke is a Ph.D. student in psychology at Central Michigan University, USA. He studies mindfulness, attitudes, and stereotyping.

L. Rowell Huesmann is Amos N. Tversky Collegiate Professor of Psychology and Communication Studies at the University of Michigan, USA and Director of the Aggression Research Program in the Research Center for Group Dynamics at Michigan's Institute for Social Research. He studies aggression and violence.

Brad J. Bushman is a professor of communication and psychology at The Ohio State University, USA where he is the Margaret Hall and Robert Randal Rinehart Chair of Mass Communication. He is also a professor of communication science at the VU University Amsterdam, the Netherlands. He studies aggression and violence.