

Avatars and Empathy: The Use of Video Games to Affect Prejudicial Evaluations of African
Americans

by

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Thesis

Submitted to the Department of Psychology

Eastern Michigan University

In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

Psychology

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August 15, 2022

Ypsilanti, Michigan

Abstract

This research sought to test the relation between video game avatars (online representations of the self), empathy, social dominance orientation, and prejudice. By having participants imagine playing in a game as an avatar I sought to test three hypotheses. The first hypothesis proposed that participants would be more inclined to support policies regarding a specific racial group when imagining play as an avatar representing that group. The second hypothesis proposed that empathy would influence the connection between the avatar and participant race variables. The third, which was split into three parts, tested for a negative correlation between prejudice and empathy, whether high levels of social dominance would suppress the beneficial effects of the counter-race avatar (specifically for White participants), and whether prejudicial judgments would be higher for participants high in social dominance orientation regardless of the race of participant or avatar condition. Participant prejudice and empathy were assessed with an empathy test from DeWall and Baumeister (2006) and the Social Dominance Orientation Scale. The hypothesis that high levels of social dominance would suppress the effect of the counter-race avatar was partially supported for positive assessments of race when controlling for social dominance orientation. Additionally, it was expected that White participants high in empathy would have stronger effects than White participants low in empathy or compared to participants of color and that social dominance orientation (SDO) would be negatively correlated with empathy. Results for empathy were not supported, however, the results for the association of SDO and prejudice were.

Keywords: race, embodiment, video games, cognition, prejudice, empathy

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Introduction

“You never really understand a person until you consider things from his point of view, until you climb inside of his skin and walk around in it.” ~Harper Lee

Prejudices are experienced on an everyday basis. Though much research has found several reasons why people hold prejudices, few studies have found effective ways to reduce these attitudes. One exception to this trend is the research that explores how prejudices are influenced by perspective-taking (Todd et al., 2011). Participants in Todd and colleagues' (2011) research imagined themselves taking the perspective of a Black individual whereas others simply interacted with their own perspectives in a social interaction as part of an experiment. The participants were asked to watch videos of Black individuals being treated unequally compared to White individuals and try to adopt the perspective of the Black man in the video or maintain and focus on their own opinion of what is happening. Individuals who performed perspective-taking were shown to have less automatic expression of racial bias than did those who did not perform such perspective-taking. Given modern technology, there are even more immersive ways to induce perspective-taking.

Research on video games has found that these games are a highly effective method for inducing perspective-taking (Bowman & Lieberoth, 2018; Gee, 2008, 2011). Some research has found that video games produce negative effects such as increased aggression (Anderson et al., 2010; Yang et al., 2014). Other research suggests that positive effects can come from video games, such as increased pro-social behavior (Greitmeyer, 2010). No research, however, has tested the efficacy of video game play as a method for inducing perspective-taking to reduce prejudice. The present research has examined if induced perspectives of video game play can reduce negative prejudices toward Black people.

Video Games and Their Effects

Since their rise in popularity, video games have earned the interest of researchers (Bowman & Lieberoth, 2018; Kromand, 2007; Gee, 2011). When video games first became popularized, they were rather simplistic and minimally interactive. Over time, the games have advanced to become able to engage multiple players simultaneously thanks to the Internet. Now players can interact with each other through the game instead of just with the game itself. Recently, video games have increased player's options so that now users can personalize their avatars rather than just selecting pre-designed characters. Video game avatars are representations of the individual inside a video game (Kromand, 2007). This innovation not only changes how players see the game, but it also seems to influence how they see themselves. Avatars are common in role playing games (RPGs), a type of game where individuals create a representation of themselves in the game's world. These avatars and virtual worlds can be as immersive as real-world settings (Ondrejka, 2004). This style of game can be used for recreational purposes and in the workplace for training and/or educational purposes. The effects of videogames are somewhat disputed, with much research pointing to the negative effects videogames can have, and some research, albeit not as much, pointing to positive benefits (Ferguson & Wang, 2019; Greitmeyer et al., 2010).

Moreover, role-playing games have especially significant effects given the way the game is played and experienced (Bowman & Lieberoth, 2018). Designing an avatar to represent yourself and having that character live out a story is involving and has been shown to impact the attitudes of players. Given the high rate of play of video games among young people as well as the significant effect videogames have on behavioral reactions, it is reasonable to state that

videogames could influence more complex social factors such as the expression or reduction of prejudice.

Video games, consoles, and computer games are widely popular with consumers of all ages (84% of teenagers aged 13–18 years old in the U.S. as well as 72% of men aged 18–30 years old; Perrin, 2018). This shows an impressive rate of video game usage in U.S. households, especially when many adults in the U.S. see video games in a much more negative light (Perrin, 2018). The worlds inside these games create unique social situations involving the avatars of the players. Additionally, the games also have advanced to become more immersive such that players tend to internalize the view that the characters they are controlling are representations of themselves (Gee, 2008). The cognitive involvement of the individual with the character entices them to experience the virtual world as if they are the character and potentially embody the feelings of the character (Gee, 2008). Highly involved games such as role-playing games could especially be used to influence such feelings including prejudice. If videogames can be used to influence large scale constructs such as aggression, then they are likely able to affect prejudices as well. Combined with the prevalence of video game platforms in the average American household, video games create the potential for a very powerful way to deliver experiences and knowledge to a large audience.

In addition, Pew Research Center (Perrin, 2018) states that approximately 43% of adults in the United States play video games of some kind, with 84% of teenagers (ages 13-17) also engaged in some form of video game play. Since such games have become so pervasive, it is not hard to understand why 82% of adults aged 65 and older believe video games contribute to violence in our society (Perrin, 2018). It would appear that one of the biggest influences in children's lives are what are often labeled as "violent video games" given how intertwined with

young adult culture popular titles like “Call of Duty” have become. Pah et al. (2017) found that gun violence in the United States, specifically in schools, has increased since the early 1990’s, around the same time the first “rated M” (Mature) video game was released according to Guinness World Records. There is an argument to be made that violent video games may cause increased aggression and prejudice among players (Yang et al., 2014). As such, much research has made an association between video game play and aggression (see also Anderson et al., 2010). There are many types of video games available, some more violent than others. Video games with more violent content are indicated to be correlated with higher levels of aggression and prejudice. This area of study is hotly debated, and new research comes out every year indicating a link between violent games and aggression as well as no connection. Additionally, the depth of influence that the games have has yet to be fully understood thus, it is possible that the games may only incline individuals to more violent thoughts but have no significant effect on behavior.

Newer research, however, is broadening the scope of the outcomes of playing such games. Yang et al. (2014) indicates that violent video game media increases prejudice toward Black individuals when the avatar is Black. Yang et al. (2014) looked at the difference in racial bias after individuals played violent and non-violent video games coupled with a White or Black avatar variable. In that research, it was found that playing a video game with a Black avatar while that avatar was using violent motives caused participants (they only used White participants) to express more negative implicit and explicit attitudes toward Blacks. In the present research, participants were assigned to either a White or Black avatar and a violent or non-violent goal. Participants who had both the violent goal and the Black avatar had greater negative attitudes. In another condition, when participants were instead instructed to play non-

violently, this effect was not seen. In that work, however, it could have been the explicit instruction to play violently that led to this effect (Yang et al., 2014). Classic research in social psychology, for instance, has shown that participants are far more likely to associate violence with Black people and, as such, make more prejudicial judgments of aggression as a result (Sagar & Schofield, 1980). This suggests that video games affect racial bias when the individual is directly interacting with the material. How this might work when participants only watch their avatar is part of the goal of the present research study.

In a large portion of American video games, the default avatar race is Caucasian. Some games, however, do allow for the augmentation of the avatar's physical characteristics such as the color of the avatar's skin (e.g., *Fallout*; *Saints Row*). *Saints Row 2* is one of fewer games where the default character is not Caucasian. For this reason, White participants who play as the Black avatar may have a unique experience. The present research seeks to examine whether watching the avatar from a third person perspective will bring about similar effects. As with other research (e.g., Yang et al., 2014), if an individual can be influenced by a game's avatar to increase prejudices, then it is plausible that a similar method could be used to decrease prejudices. The present work will examine if video games can influence how much participants might take the perspective of a Black avatar and as a result reduce racial bias.

Other research has shown that videogames can have a positive impact on attitude, behavior, and mental functioning (Eichenbaum et al., 2014, Jones et al., 2014, Ryan et al., 2006). Kuhn et al. (2019) state that the negative effects seen in many articles about violent video games are largely due to priming effects and would not be reliable in a more longitudinal study. Using a similar game, *Grand Theft Auto*, they showed that over a six-month period there was no rise in the average aggressive tendencies of participants indicating that the act of playing the video

game and interacting with the avatar primed the participants to be more aggressive immediately after the procedure. Przybylski and Weinstein (2019) postulate that the negative stigma surrounding videogames stems from a “precautionary principle,” which is an attempt at impeding potential societal harm. They surveyed 1,004 young adults (ages 14 and 15) in the United Kingdom who reported the amount of time spent playing games and completed the Strengths and Difficulties Questionnaire, which measures recent aggressive behaviors in adolescents. They did not find any statistically significant correlations between playing violent video games and increased aggressive behavior.

In another longitudinal study Ferguson and Wang (2019) found that across 3,034 youths (median age of 11 years old), there was no indication that videogames with violent content had a lasting effect on aggression. In fact, Ferguson and Wang point out that “it would take 27 hours a day of M-rated gameplay to produce a clinically noticeable change in aggression” (p. 1439) providing even more indication that an increase in aggression would be a priming effect and transient at best. Despite some research finding benefits or null effects on negative reactions, there is still evidence that there is a potentially minimal effect in a sense of immediate, albeit brief, changes in aggression (Anderson et al., 2010). There is also a possibility that being involved in a violent videogame may increase empathy with the character and by extension the group of people the character (avatar) represents. Much like in Yang et. al. (2014), I believe that interacting with the videogame avatar can cause changes in attitude, but in contrast, I hope to show that by interacting with the content mentally, without physical interaction, I can elicit positive reactions towards the racial group the avatar represents (Black persons) and policies regarding them.

Prejudice and Empathy

Another method to reduce prejudice is to get individuals to experience or express more empathy toward stigmatized targets (Miklikowska 2018; Shih, Stotzer, & Gutierrez, 2012; Stephan & Finlay, 2003). According to Aronson and Aronson (2018) prejudice can be defined as a negative attitude toward all members of a social group (p. 255). Prejudice can take multiple forms, from open dislike of others to much more subtle forms such as micro-aggressions. Because of this, several researchers also attempted to develop reduction techniques. Some of the more commonly used techniques are contact, education, and empathy. Dovidio et al. (2005) explain Gordon Allport's Contact Theory for prejudice reduction. This theory assumes that prejudice will be reduced if certain conditions are met. These conditions are equal status, common goals, cooperation, and support of authority, law, or customs of all. A certain level of understanding between individuals is required for the reduction of prejudice which provides support for the educational approach. By providing individuals access to the traditions and perspectives of other cultures, you both increase the factual knowledge an individual has of the group and its members as well as decrease the prejudice that stems from misinformation and stereotypes about the group (Camicia, 2007). In short, these types of contact experiences help to put the perceiver in the place or world of members of other groups. In some ways, video game play may also do the same.

Empathy has been shown to relate to the type and amount of prejudice that an individual may express (Stephan & Finlay, 2003). Additionally, research has shown that activities that induce empathy can be a good prejudice reduction strategy because it helps the individual share the perspective of another and not only notice similarities between the self and others, but also to notice the inconsistencies of the stereotypes that often lead to prejudicial feelings. Empathy is

generally broken down into two subgroups by researchers: cognitive and emotional empathy (Stephan & Finlay, 1999). Cognitive empathy refers to simply taking the perspective of another. Emotional empathy can be further broken down into two types: parallel and reactive empathy. Parallel empathy is experiencing the emotions the other person is experiencing whereas reactive empathy is the individual's emotional reaction to the other person's "emotional experience." Empathy not only involves understanding the position of another person but also involves interaction with the other person's emotions in some way. We believe video game play will elicit parallel empathy. Since parallel empathy is denoted as experiencing the emotions another would be having it makes sense that interacting with an avatar that represents themselves would lead them to become involved in situations the avatar is in as if it were the individual themselves. This is important because by putting an individual in the situation of a prejudiced person we expect to be able to adjust their prejudicial assumptions, judgments, and evaluations of others.

Empathy is worth considering in regard to video games because video games require you to imagine yourself as something other than yourself, even if that is simply a digital version of yourself. Your current identity becomes tied to the character in the game, and thus, people will often produce emotions in line with their characters' situations. These feelings can even linger outside the game in the form of increased positive or negative behaviors (Greitmeyer, 2010; Anderson et al., 2010). In fact, many video games can actively promote a series of emotions, even leading to overt expressions of frustration and/or broken equipment (Lopes, 2014).

The emotions that an individual feels or expresses can also be influenced by empathy. Miklikowska (2018) also states that empathy is complex and has two main components. Empathetic concern is the vicarious experience of emotions consistent with the observed person whereas perspective-taking is an understanding of the others internal states (p. 704). Similar to

Stephan and Finlay (1999), Miklikowska denotes two major subdivisions of empathy with one aspect being rooted in the understanding of the individual's situation and the other being rooted in the experience of that individuals' emotions.

As noted in the aforementioned works, the feelings that linger outside the video game are dependent on the content being presented. It is reasonable to expect that video game content that would have the individual experience prejudice (inside the game as a consequence of their avatar) would elicit empathetic emotions for victims of prejudice in the real world. By asking participants about their attitudes toward scenarios where individuals were harmed by others, we hope to find that interacting with or as a Black avatar relates to empathy and reduces prejudice toward Black persons. Vanman (2016) notes that those who are high in prejudice tend to be less empathetic; therefore, if we can elicit more empathy, or at least measure the amount of empathy an individual expresses, we can predict reductions in the amount of prejudice an individual may express toward Black persons. Mekawi et al., (2017) also postulated that prejudice is inversely correlated with empathy and stated that empathy is an important factor in reducing prejudice across a group (p. 208). I propose that the same can be said on an individual level.

Social Dominance

Social dominance orientation (SDO) is also important when considering prejudices and even racial bias because the belief that one's group or person can "dominate" another in a social hierarchy is an inherent part of racial bias itself. People who are high in SDO are going to be more likely to exhibit racial bias in judgmental situations such as a mock juror's trial (Kimmelmeier, 2005). According to social dominance theory, societies are assumed to contain inherent hierarchies wherein some groups have greater access to resources and power than others. It proposes that members of dominant groups discriminate against members of other

groups in either interpersonal ways or through institutions (Kemmelmeier, 2005; Ho et al., 2015). In this research, the SDO of the participant is expected to be a main factor in how we interpret the results. According to Ho et al. (2015), SDO measures have been shown to be valid predictors of intergroup attitudes and have influence on those attitudes and future “personality facets” as time goes on. The potential to influence individual appraisals of others is one reason why SDO has become even more important in social and political psychology discourse.

A major part of this change is what many are now calling “critical consciousness” (Shin et al., 2016). Critical consciousness means that by increasing personal knowledge about the many different modes of racial inequity (like institutions and systems), people will garner the motivation and skills to combat these issues. In short, it is the process by which marginalized groups become more aware about unequal social conditions and take action to change them (Ezeofor et al., 2016). One method of increasing personal knowledge about racial inequality is by experiencing it and reflecting upon it. This research provides a unique opportunity for participants to learn about racial inequalities.

Rationale and Hypotheses

The aim of this research was to examine the connection between video-game based perspective-taking when a player's avatar is represented as being of the same-race or as belonging to another racial group. More specifically, I hypothesized that feelings of empathy and the endorsement of prejudiced attitudes ought to vary as a function of participants having been primed with having played an avatar that is the same as opposed to another-race character. As noted previously, research has started to explore how the use of racially identifiable avatars in video games has the potential to work as a mechanism for teaching players how to empathize with others across racial lines. Additionally, this research sought to examine the differential effectiveness of having people imagine playing such games versus having them actually play these games (this additional manipulation was, in part, a result of the current COVID-19 pandemic that made meeting with participants in person problematic). In this way, the research sought to better understand how well video game avatars (real or imagined) might influence how participants view African Americans in general as well as how, subsequent to the aforementioned manipulation, participants might rate the degree of racial bias they perceive in real-life scenarios involving Black persons.

The first hypothesis was that playing as another-race avatar would subsequently cause participants to be more supportive of racial equity and fairness attitudes concerning people of that racial group as well as increasing such participants' willingness to see racially charged vignettes as more racially biased when compared to participants who played a same-race avatar. In particular, this study expected stronger effects for White participants since playing as an other-race avatar would be less familiar to members of a racial group whose race typically serve as the default or standard option for video game avatars. It was expected that White participants

assigned to the Black avatar condition would show less prejudice toward African American targets described in vignettes read subsequent to the playing of the game than would White participants assigned to the White avatar condition, or other participants of color who played the game. For participants of color, I did not expect a strong effect, and thus, no effect of avatar condition was expected for participants of color on the judgments.

A second hypothesis was that for White participants, the association between being in Black vs. White avatar condition and perceiving higher levels of prejudice in vignettes would be moderated by participants' levels of general empathy (e.g., more empathy would lead to less prejudice, particularly in the cross-race avatar conditions). Additionally, participants' SDO was expected to play a role. Specifically, that higher levels of SDO would equate to more prejudice.

A third hypothesis was that SDO would interact with the other variables to affect prejudice. The three ways we tested for SDO's effect were that (a) higher levels of social dominance would be negatively correlated with empathy regardless of participant condition, (b) that high levels of social dominance would suppress the beneficial effects of the counter-race avatar (specifically for White participants), and (c) that prejudicial judgments would be higher for participants high in social dominance orientation regardless of the race of participant or avatar condition.

Methods

Participants

Participants included 88 undergraduate students enrolled at Eastern Michigan University (EMU; 68% White, 17% Black, 3.4% Hispanic/Latino, 11.4% Asian/Pacific Islander). Median age of participants was 20 (range 18-48), and a median income of \$10-40K was also reported. Of these participants, 68.2% were unfamiliar with Saint's Row 2, and 24.1% were unfamiliar with role playing games (RPGs). Due to an oversight, gender of participant was not recorded. All participants were over 18 years of age and had consented prior to the start of the survey. Participants who failed to complete the study sufficiently were not used in data analysis ($n = 2$). Thus, the final sample had 86 participants.

Procedure

Participants signed up for participation using EMU's Sona system and completed the study online. After signing up, participants completed a consent form before continuing with the study. Participants were then prompted with a page that informs them of the nature of the procedures and explained to them that they were to watch video and imagine themselves playing as the character in the game (Saints Row 2). The study informed participants that "our lab has done previous work with video games, and we intend to test some new materials for later use. In the following video we will have game play from the game Saints Row. We would like you to imagine that you are playing as the avatar you see in the video."

After these instructions, participants were given a measure of empathy as used by DeWall and Baumeister (2006). This was followed by a paragraph explaining the empathy measure:

In order to get you used to the online system for research, we are going to have you read over a few essays that were drafted by other students in another study. In each, we want you to carefully read over the essays to get a sense for how well you can feel the sentiments of the authors. You will read two essays in random ordering. Please read each essay carefully, and really try to get a feel for what the author is expressing. Please answer each of the questions for the essays.

This empathy measure used two scenarios about an individual who broke up with their longtime girlfriend or boyfriend and another who had broken their leg. Participants then reported how warm, compassionate, soft-hearted, tender, and sympathetic they felt towards the individual in the scenario, each on 5-point Likert scales (1 = *strongly disagree*; 5 = *strongly agree*). This gave us a baseline measure of the participant's empathy. Empathy scores were computed as a consequence of average across items for each scenario to yield a composite empathy value.

Then, by random assignment, participants watched a video of either a Black avatar or a White avatar during the game play sequence. The participants did not play the game themselves but instead watched gameplay footage imagining themselves controlling the game (note: this procedure was required due to the remote nature of the research during the COVID-19 pandemic). In each sequence, the actual play of the game is identical, starting with the avatar in an infirmary ward in a prison setting. At that point, the playing of the game goes on for 8 minutes and 2 seconds where the avatar escapes from prison. In each condition, the avatars vary both on skin tone and on voice qualities that infer either African or Caucasian racial characteristics.

After watching either avatar sequence, participants then read over six excerpts from the Racial Argument Scale (RAS; Saucier & Miller, 2003; note the original RAS measure has 16

excerpts). The original measure was validated on 248 White undergraduates that had acceptable reliability ($\alpha = .70-.76$) and could be confirmed with a single factor structure. Because this research was concerned with how the avatar induced perspective-taking, both positive and negative scenarios from the RAS were used but as independent response categories indicating both positive and negative reactions concerning issues related to Blacks. Three of these excerpts are positive arguments in favor of policies that support Black individuals (e.g., college testing policies should be equated) while the other three are negative arguments (e.g., UNCF funds should be available for all races) that cast Black individuals in a more negative light. Participants rated their agreement with the excerpts on a 5-point Likert-type scale (1 being *do not agree at all*, 5 being *agree very much*). The order in which these were presented was randomized.

After rating, participants were prompted with another informational paragraph asking them to weigh responsibility in two different scenarios that depict members of racial categories being mistreated, harmed, and killed because of the actions of others (as part of exploratory measures of prejudice). In these scenes, participants read about the mistreatment and deaths of George Floyd (a Black male citizen who was killed by police during an arrest), and Maxwell Gruver (a White college student fraternity pledge who was killed during a fraternity initiation ceremony). For each scenario, participants saw an image of the victims (Floyd, Gruver) and then completed a series of surveys designed to inadvertently measure prejudice. The order in which these scenarios were presented was randomized, with five questions for each of the scenarios. The scenario for George Floyd was as follows:

George Floyd was a Minneapolis citizen who lost his life during an interaction with law enforcement in 2020. Mr. Floyd was initially being questioned over the use of counterfeit bills based on a call made by a store clerk. The responding officers placed him

under arrest and had him handcuffed when Mr. Floyd fell to the ground on the way to the police vehicle. Taken as a sign of resistance the responding officers Derek Chauvin, Tou Thao, and one other felt it necessary to physically restrain him. Mr. Chauvin placed his knee on Mr. Floyd's neck and held it there, ignoring the pleas of bystanders, until Mr. Floyd was dead. Mr. Chauvin is now in custody with a second-degree murder charge as well as second degree manslaughter. The other officers are facing similar or reduced charges.

The Scenario for Maxwell Gruver was as follows:

Maxwell Gruver was an 18-year-old fraternity pledge who lost his life during a hazing ritual at Louisiana State University. During the "initiation" Mr. Gruver was told to drink if he answered any trivia questions wrong. One particular student has been arraigned as the "leader": Mr. Matthew Naquin. Mr. Naquin (age 21) was reported by other fraternity members as the leader and was recognized as "the person who kept telling people to drink more" according to a fellow student. Mr. Naquin was charged with negligent homicide for the death of Mr. Gruver while other fraternity members received lesser punishments (a few misdemeanors for hazing).

Participants then evaluated each of five questions on 8-point Likert scales (0 = *not at all*; 7 = *completely*).

1. How responsible were the officers/fraternity members for the death of George Floyd/Maxwell Gruver?
2. Was one officer/fraternity member more responsible than the others?
3. Should the officer's/fraternity members be penalized/punished for what happened?

4. How responsible is George Floyd/Maxwell Gruver for their own death?
5. How much was George Floyd/Maxwell Gruver's death a product of the situation?

After answering these questions, they answered questions about their attitudes toward racial categories using the Old Fashion Racism Scale (McConahay, 1986; $\alpha = .86$). The scale has 14 questions using a Likert-type scale going from *Strongly Disagree* to *Strongly Agree*. The scale has been shown to have acceptable reliability and can provide an overall score on prejudice as a single factor. The questions asked are very open about racial attitudes and whether the individual agrees with the standpoint of the question. For example, assertions like "Blacks are not as smart as Whites," which is one of the questions, can be answered with *Strongly Disagree* or any of the eight answer options. A neutral *neither agree nor disagree* option was used as well as *choose not to answer* option. This measure, however, is presented only to help screen for highly prejudiced individuals within the study.

Participants also completed the Social Dominance Orientation Scale (DiStefano & Roccato, 2005), The Social Dominance scale is a validated measure of 12 items that looks at individual attitudes towards social and political inequities. This is based on the original SDO scale by Pratto et al. (1994), which contains 14 items. Other variations of the scale have been created including the four-item SDO and translated 12-item version also (DiStefano & Roccato, 2005). Your "orientation" as determined by the scale indicates whether the participant is high or low in social dominance, the idea that certain groups should retain more control over resources and power than others. A low rating of social dominance indicates that the participant believes in a more equalized society.

Additionally, participants also completed a set of demographic questions. Demographic variables include age (open ended), ethnicity (Caucasian, African American, Hispanic/Latino,

Asian, Pacific Islander, Other), and household income (ranges, i.e., \$0-\$10,000). Then, in a series of questions, we asked participants about the transparency of the study, i.e., whether they were able to figure out the major goals of the studies. We also asked whether the individuals are aware of the race of each individual in the different scenarios (Floyd and Gruver). This ensures that participants had the correct image in mind when answering the questions. Following the completion of these questions, participants were led to a debrief page explaining the content of the research as well as an option to have their data discarded voluntarily due to any personal reasons they may have.

Results

The current study was conducted to assess how participants who are primed by playing as either a Black or White video game avatar subsequently evaluate the degree of prejudice in an unrelated series of racially ambiguous vignettes. In this study, the racially ambiguous vignettes included six items from the Racially Ambiguous Situations measure (DeWall & Baumeister, 2006). Though prior research has taken a total composite score for this measure, the present research examined whether or not there was a factor structure for both positive and negative scenario items on the selected situations. A principal components analysis indicated that the six items loaded onto two factors that accounted for 54.11% of the variance. Factor 1 indicated higher loadings for the positive items (loadings $> .485$), and that factor accounted for over 28% of the variance. Factor 2 indicated higher loads for the negative items (loadings $> .574$), and that factor accounted for 26% of the variance. As such, a positive RAS score and a negative RAS score was computed and was examined separately.

In order to test the initial hypothesis, the idea that playing as a Black avatar would more strongly affect the prejudicial judgments as compared to playing as a White avatar for White participants, or for participants of color, multiple regression procedures were conducted for both positive and negative RAS scores. Positive RAS scores were regressed onto participant racial category (White, person of color), avatar condition, and the interaction of the two. The regression analysis indicated a marginal effect for race of participant, $\beta = -1.102$, $t(80) = -1.68$, $p = .097$. This effect occurred because Whites indicated more agreement ($M = 4.03$) with the positive items (more equitable treatment of Blacks) than did participants of color ($M = 3.77$). Additionally, there was also a marginal effect for avatar condition, $\beta = -.982$, $t(80) = -1.72$, $p = .089$. This effect occurred because participants who observed the Black avatar ($M = 4.09$)

indicated more agreement with the positive RAS items than did participants who observed the White avatar ($M = 3.84$). No effect, however, was found for the interaction, $\beta = .55$, $t(80) = 1.30$, $p = .20$. Thus, hypothesis 1 was partially supported with marginal effects for the avatar condition and positive RAS responses showing that White participants responded more strongly to the Black avatar condition than persons of color or White persons in the White avatar condition.

For the negative RAS scores, however, no effects of participant race, $\beta = -.41$, $t(80) = -.57$, $p = .57$., avatar condition, $\beta = -.66$, $t(80) = -1.05$, $p = .30$., or an interaction were observed, $\beta = .11$, $t(80) = .23$, $p = .82$. Unfortunately for the negative RAS scores, the hypothesis one was not supported.

Additionally, participant evaluations were taken for recent events where a Black and White man were killed at the hands of others. For the event with the Black man, participants evaluated fault for the death of George Floyd. For that event, participants evaluated the responsibility of the police officers in terms of if one officer was most responsible, whether the officers should be punished; if George Floyd was somehow responsible in some way; or if the event was merely a consequence of the situation. A factor analysis showed that the question items loaded on two main factors accounting for 41.8% and 27% of the variance respectively (loadings on Factor 1 greater than .786, loadings on Factor 2 greater than .726). A principal components analysis of the George Floyd responses was then conducted with the race of the participant and the avatar condition as moderating variables. The principal components analysis showed no effect of either race of participant $\beta = -.414$, $t(80) = -.61$, $p = .54$, or avatar condition $\beta = -.777$, $t(80) = -1.29$, $p = .20$, on the responses to the George Floyd scenario. The interaction effect also showed no significance, $\beta = .494$, $t(80) = 1.12$, $p = .27$. A multiple regression for participants blaming a specific person showed no significant results for the race of the

participant, $\beta = -.103$, $t(80) = -.08$, $p = .94$; the avatar condition, $\beta = -.624$, $t(80) = -.53$, $p = .60$; or the interaction between them, $\beta = -.049$, $t(80) = -.06$, $p = .95$. Thus, this set of analyses does not support hypothesis one due to the lack of statistically significant result. See Table 1.

For the event of the White man, participants evaluated fault for the death of Maxwell Gruver. The question structure was the same for this test as it was for the George Floyd test. A factor analysis showed that the items loaded onto two main factors accounting for 40.6% and 23.2% of the variance, respectively. A principal components analysis of the Maxwell Gruver responses showed no significance for the race of participant, $\beta = .451$, $t(80) = .50$, $p = .62$; the avatar condition, $\beta = .187$, $t(80) = .24$, $p = .81$; or the interaction effect, $\beta = -.117$, $t(80) = -.20$, $p = .84$. A multiple regression for participants blaming a specific person showed no significant effects for the race of the participant, $\beta = .198$, $t(80) = .19$, $p = .85$; the avatar condition, $\beta = -.739$, $t(80) = -.80$, $p = .43$; or the interaction between the two, $\beta = .255$, $t(80) = .38$, $p = .71$. See Table 2.

It was also hypothesized that empathy might moderate these effects. In fact, empathy scores were positive associated with the positive RAS average, $r(83) = .381$, $p < .001$, but not with the negative RAS average, $r(83) = -.140$, $p = .298$. In order to examine the moderating role of empathy, a three-way multiple regression was conducted. The analysis regressed positive RAS scores onto race of participant, avatar condition, empathy, and for all interactions. The three-way multiple regression revealed no significant effects for the race of participant, $\beta = -3.326$, $t(80) = -1.52$, $p = .13$; avatar condition, $\beta = -2.647$, $t(80) = -1.50$, $p = .14$; empathy, $\beta = -.267$, $t(80) = -.77$, $p = .44$; or for the interaction between participant race and avatar condition, $\beta = 1.530$, $t(80) = 1.11$, $p = .27$; the interaction of the race of the participant and empathy, $\beta = .235$, $t(80) = .90$, $p = .37$; the interaction between avatar condition and empathy, $\beta = .182$, $t(80) = .84$, $p = .40$; and

the three-way interaction of race of the participant, avatar condition, and empathy, $\beta = -.094$, $t(80) = -.55$, $p = .58$. Hypothesis 2 was not supported since empathy was not found to moderate the variables in any way. Another three-way regression was done for the negative RAS scores. This showed no significant effects for the race of the participant, $\beta = .403$, $t(80) = .16$, $p = .86$; the avatar condition, $\beta = .558$, $t(80) = .27$, $p = .79$; the interaction between participant race and avatar condition, $\beta = -1.22$, $t(80) = -.75$, $p = .45$; empathy, $\beta = .003$, $t(80) = .01$, $p = .99$; the interaction of empathy and participant race, $\beta = -.111$, $t(80) = -.36$, $p = .72$; the interaction of empathy and avatar condition, $\beta = -.164$, $t(80) = -.64$, $p = .52$; or the three-way interaction, $\beta = .179$, $t(80) = .90$, $p = .37$. These results do not indicate support for hypothesis 2; however, greater levels of empathy are found to be correlated with lower levels of prejudice.

It was also hypothesized that participant SDO would impact how participants expressed empathy and how they reacted to the evaluations of prejudicial situations. For empathy, there was an observed negative correlation between SDO and empathy, $r(82) = -.214$, $p = .053$. For participants higher in SDO, they indicated less empathy. SDO was also associated with positive and negative RAS averages, $r(82) = -.299$, $p = .006$, and $.382$, $p < .001$, respectively. Additionally, SDO was expected to moderate the effects of avatar condition and race of participant on the evaluations. As such, a similar three-way regression was conducted, where positive RAS scores were regressed onto race of participant, avatar condition, SDO, and both two-way and three interactions thereof. The three-way multiple regression showed a significant effect for the SDO, $\beta = 2.716$, $t(80) = 2.01$, $p < .05$. Additionally, there was an interaction between the participant's race and SDO, $\beta = -2.440$, $t(80) = -2.24$, $p < .05$. Marginally significant effects were found for the avatar condition and SDO, $\beta = -1.451$, $t(80) = -1.85$, $p = .07$. Finally, there was a marginally significant three-way interaction, $\beta = 1.128$, $t(80) = 1.84$, $p = .07$. As can

be seen in Table 3, the interaction occurred because White participants in the Black avatar condition who were low in SDO agreed more with positive treatments in the RAS than did White participants in the White avatar condition who were high in SDO. It did not show significant effects for race of participant, $\beta = 2.230$, $t(80) = 1.30$, $p = .20$; avatar condition, $\beta = 1.163$, $t(80) = .87$, $p = .39$; or the interaction between them, $\beta = -.943$, $t(80) = -.92$, $p = .36$.

A three-way regression was also done for the negative SDO scores which indicated no significant effects for the race of the participant, $\beta = .665$, $t(80) = .33$, $p = .74$; the avatar condition, $\beta = -.187$, $t(80) = -.19$, $p = .91$; the interaction between participant race and avatar condition, $\beta = -.656$, $t(80) = -.54$, $p = .59$; SDO, $\beta = .708$, $t(80) = .44$, $p = .66$; the interaction of SDO and participant race, $\beta = -.427$, $t(80) = -.33$, $p = .74$; the interaction of SDO and avatar condition, $\beta = -.088$, $t(80) = -.096$, $p = .92$; or the three-way interaction, $\beta = .273$, $t(80) = .38$, $p = .71$.¹ As shown in Table 4, though the differences between participant race, race of avatar, and interactions with SDO were not significant, the pattern in results were similar (but in the opposite direction) as was found for Positive RAS items.

¹ 1. The results above were examined with the covariates, familiarity with the Floyd case and familiarity with the Gruver case. They were found to have no significant impact on the results.

Discussion

The current research sought to test three hypotheses. Though not all of the hypotheses were confirmed, some of the findings nonetheless relay the importance of this research. The first, whether playing as a Black avatar would more strongly affect the prejudicial judgments as compared to playing as a White avatar for White participants, or for participants of color, found some supporting evidence. This was evident by differential agreement with the positive RAS items. These items presented positive policies and views towards Black individuals compared to the negative RAS measures which put forth negative policies and views towards Blacks. White participants who viewed the Black avatar showed more agreement with the positive RAS items than did people of color. Additionally, participants who viewed the Black avatar, regardless of race, showed more agreement with the positive RAS scores than those who viewed the White avatar. This indicates that for people who interact with an avatar of color, that interaction might promote positive treatment toward targets of color. This comes on the heels of many major social policies and talks in the United States as the country attempts to rectify a history of marginalization and mistreatment of indigenous and people of color.

White privilege is a prevalent topic in the United States' political discourse in recent years, and the recognition of its existence and one's willingness to confront said privilege is considered of utmost importance in the fight against systemic inequality. The White Privilege Attitudes Scale (WPAS) is one of the first measures of white privilege and using it they found that white remorse was strongly correlated with confrontation but only in the form of mental ramifications instead of action-based ramifications. In other words, people became more thoughtful about their privilege but were not very motivated to take action to rectify their privilege (Pinterits et al., 2009). They identify four factors involved in white privilege:

willingness to confront it, the anticipated cost of doing so, awareness of that privilege, and remorse for having privilege. This measure may provide insight into the willingness of an individual to shift their attitudes from more prejudiced to less prejudiced ones and in future research, combined with other measures, could paint a detailed portrait of the complex construct that is prejudice and the reduction of it.

For the present research, a modified version of the RAS was used. The RAS by Saucier and Miller (2003) is stated to be a valid and thoroughly vetted method of predicting racism and positive and negative attitudes towards Black individuals. An analysis of the negative RAS items showed no significant effects (as seen on Table 4). This is likely due to the idea that many people do not wish harm to befall others, and thus, even though they may not like or agree with an individual, they are unlikely to wish ill upon them. Additionally, people may not wish to be seen as racist or against any particular group of individuals.

The reluctance to expect harm or struggle onto others can take many forms and can be differentiated based upon group membership. One of these forms or strategies is what many refer to as “color blindness.” With color blindness, people want to be seen as non-prejudiced or as “color-blind” as possible. However, Zou and Dickter (2013) found that among those who claimed to be “color-blind” (incapable of being prejudice based on a person’s skin color), the more color-blind people claimed to be the more they found a minority whistleblower to be confrontational or overreacting. Thus, being “color-blind” leads to a reduction of the confronter’s concerns when that person is a minority group member. This can lead to a dismissal of concerns but also to an unfair state of comparison. If a person believes themselves to be color-blind, they may ignore the situational and systemic factors that plague a person of minority status because they “see everyone the same.” This could account for why the negative RAS scores produced

little differences across groups. Further research could look at the link between color-blind ideology and SDO as that may provide greater insight into what motivates individual's to be for or against certain policies.

The above data do indicate that individuals did not expressly wish for negative policies to be implemented; therefore, some sense of wanting to appear as “less prejudiced” does seem to exist. We know this because the positive RAS scores were higher than the negative RAS scores for those in the Black avatar condition indicating participants, in general, would rather support pro-Black policies than deny those policies. An answer to this could lie in “critical consciousness theory” as put forth by Shin et al. (2016). According to Shin et al., critical consciousness is increasing personal awareness of institutional and systemic inequality and using that knowledge to confront those structures. This indicates that as people filled out the RAS measures and were forced to think about the positive and negative benefits of accepting or denying these claims, they may have been inhibited by the freshly gained perspective these scenarios were providing.

Additionally, the RAS items used in this research are a subset of the items from the original survey. This means that the scale used here was not the original RAS measure but a briefer version (6 instead of 12 items). This was done in order to limit participant fatigue but in doing so may have had an impact on the scores we received. Though marginal, the effects found here indicate that this kind of media can have a positive influence on people. The use of avatars provides a whole new way to test psychological phenomenon in situations where in person delegation is either unsafe or unnecessary.

Although the RAS measures were more responsive to the manipulations, similar effects were not seen for some of the outcome measures. For the responses toward the real-life events of George Floyd and Maxwell Gruver none of the expected differences were seen. One potential

explanation for this lack of effect could have been fatigue effects which can occur over extended periods of time without breaks (Simon et al., 2020). Another potential explanation for the lack of effect might be due to these measures being untested. A more robust measure that has been thoroughly vetted by peer-reviewed research would likely yield more significant results. Additionally, the RAS may not have been the most ideal measure for what we were studying (attributions of responsibility). Another measure may look at the variable we wished to examine more effectively than the one we used.

The second hypothesis tested whether White participants who were high in empathy would have a stronger reaction to the avatar condition than would White participants low in empathy, participants who had the White avatar condition, or persons of color. Sparkman and Blanchar (2017) found that a need for cognitive closure or “openness to experience” (in other words the desire to have a complete understanding of a topic) is a large factor in the negative correlation between prejudice and perspective-taking, which, though not a causal relationship, further supports that the perspective-taking found when using a video game avatar can reduce prejudice.

As noted above, empathy was not found to be significant with any of the variables. This could be due to a number of reasons. First, empathy was measured prior to the administration of the videos and thus before the experimental variables when such feelings may not have yet been activated. This ordering of operations may have influenced the lack of significance with the avatar condition due to the fact that empathy was measured before participants could interact with the avatars. Second, there is also the possibility that the measure used did not correlate with the type of empathy elicited from this experiment. Our measure was a variant of Dewart and Baumeister’s (2006) empathy measure and may not have elicited the correct type of empathy or

a significant amount. Stephan and Finlay (1999), as previously mentioned, divided empathy into two major divisions with one subdivision (cognitive empathy vs. parallel/reactive empathy). There is the possibility that the selected measure did not measure parallel empathy as intended but rather was measuring reactive empathy, cognitive empathy, or none of these. This is possible since these methods have not been rigorously tested for validity or reliability in an extensive set of experiments, as is the nature of many new procedures and methodologies. A more robust measure such as the Scale of Ethnocultural Empathy by Wang et al. (2003) could have been used for more reliable results and a more comprehensive breakdown of empathy as a variable (using four factors instead of Stephan and Finlay's two-factor model). This measure, being a more well-tested and replicated measure, may be more accurate in assessing empathy levels which could show, in detail, how much and what kind of empathy we are dealing with when assessing its influence on judgments. Additionally, the scope of the measure is much larger, capturing a much more detailed picture of empathy than the current measure.

The third hypothesis was divided into three parts. The first suggested that high levels of SDO would be negatively correlated with empathy and would suppress the beneficial effects of the counter-race avatar condition. A negative correlation for this was observed, though not found to be statistically significant. For the second part of the third hypothesis, that SDO would suppress the beneficial effects of the counter-race avatar condition, we found interesting results. A three-way regression showed a statistically significant effect for SDO as well as marginal effects for the interactions between participant's race and SDO, avatar condition and SDO, and the three-way interaction between those variables. Our research indicated that White participants low in SDO in the Black avatar condition were more in favor of the positive RAS items than those in the White avatar condition with high SDO. This is important because the counter-race

avatar condition appears to work for those low in SDO. If this is true, then avatars could be used as a viable medium for social research in this area when dealing with SDO. This is in line with other research that has looked at SDO (Ho et al., 2015). Ho et al.'s work examined SDO in detail and provided insight into the nature of this variable. SDO is often observed with a two-factor model. There is SDO-D, which is the individual's need/desire for a hierarchical system, and the other is SDO-E, which is the individual's opposition to equality measures. Those high in SDO tend to be high in these areas as well, since a greater belief in hierarchical segregation and a strong opposition to equitable legislation are commonly correlated with the idea of "dominating" another group of people. As a slightly different version of SDO was used in the present work, these different dimensions were not examined. In future work, however, such a consideration could be employed. Additionally, Jost and Thompson (2000) have examined SDO under these two factors and developed recent measures of SDO that more accurately assess the intricacies of what SDO entails. Further research could use these measures in conjunction with video game measures to provide more robust explanations for the significant results found here.

For the third part of Hypothesis 3, whether prejudicial judgments would be higher for those high in SDO, we saw a non-significant trend in the direction we had anticipated. This meaning that those who were high in SDO did rate prejudicial arguments as more agreeable and more equitable or positive as less agreeable. The same is true for the inverse where those low in SDO rated prejudiced arguments as more negative and arguments for equity as more positive/favorable. This is in line with what we already know about SDO.

SDO, in this study, has been shown to have a significant impact on how deeply people can connect with the avatar in front of them if that avatar is Black and the participant is White. People who were lower in SDO (in the Black avatar condition) were higher in empathy and were

more in favor of positive policies regarding Black individuals. Yet we find that empathy does not seem to play a role in moderating individual attitudes. This may be because the construct that SDO represents is a precedent to the process of empathy. By this I mean that when an individual evaluates another, consciously or unconsciously, they may identify similarities and differences as part of a “security measure” (thinking from an evolutionary perspective: Is this animal like me?). SDO is a part of this evaluative process because it could be informing the individual of whether or not it should empathize with the avatar/person. The exact nature of this connection could be further expanded upon later by exclusively looking at SDO as a precursor to empathy in a socially interactive setting.

Conclusion

White participants in the Black Avatar condition, as predicted, reacted more favorably for pro-Black policies than did White participants in the White avatar condition or participants of color. This was even the case when participant SDO was considered. This was not the case, however, with empathy as measured herein. Though many of the other effects with empathy were not statistically significant, the finding that high SDO does negatively correlate with empathy is in line with other research that shows SDO has a strong connection with our decision making. A sizable body of research on courtroom behavior (Kimmelmeier, 2005; Sommers & Ellsworth, 2000; Mitchell et al., 2005) found that there is a large amount of bias present when juries are assessing fault. Regardless of SDO orientation, individuals tend to exhibit bias either pro-minority (if low in SDO) or anti-minority (if high in SDO). People do tend to guard themselves if there are racially driven topics and will exhibit lower prejudice than if topics are racially ambiguous; however, the existence of racial bias is still prevalent and will be given the United States' long history of racial discrimination. Despite this, there is hope that video game avatars will be a new method of increasing positive views towards Black persons though future research is needed to have a more complete understanding of how potent this methodology may be.

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Table 1

Average Responses for George Floyd Noting Participant Race and Avatar Condition

	White Participants	Participants of Color
White Avatar	7.66	7.09
Black Avatar	7.45	7.38

Table 2

Average Responses for Maxwell Gruver Noting Participant Race and Avatar Condition

	White Participants	Participants of Color
White Avatar	5.95	5.74
Black Avatar	6.00	5.67

Table 3

Mean Positive RAS Scores for Participants in White and Black Avatar Conditions by Participant SDO Level

	White Participants		Participants of Color	
	Black Avatar	White Avatar	Black Avatar	White Avatar
Low SDO	4.30	4.17	4.16	4.31
Moderate SDO	4.28	4.04	3.71	4.12
High SDO	4.24	3.71	2.50	3.63

Note. SDO = Social Dominance Orientation

Table 4

Mean Negative RAS score for participants who varied on SDO and for Avatar Conditions and Participant Race

	White Participants		Participants of Color	
	White	Black	White	Black
	Avatar	Avatar	Avatar	Avatar
SDO Low	1.74	2.74	2.26	2.90
SDO Med	2.00	2.85	2.47	3.06
SDO High	2.68	3.13	3.06	3.47

Note. SDO = Social Dominance Orientation

Appendix: Research Materials

Cognitive Embodiment

Start of Block: Consent Block

Q39 Purpose: To assess attitudes towards punishment.

Study Procedures: Participation in this study involves watching a video recording of a video game and then answering some questions. You will be asked to imagine you are the individual controlling the video game play. Afterwards, you will read topics from current events involving homicides and then you will assess those events. Finally, you will complete some individual difference scales and attitudes and demographic questions as part of the study. The entire study will be completed online. use imagining techniques and watch a video. In all, the procedure is expected to take around 25-45 minutes.

Types of Data Collected: Attitudes assessments of fault, and ratings of your social/political perceptions, as well as demographic information will be examined.

Risks: There are no expected physical or psychological risks to participation. The primary risk of participation in this study is a potential loss of confidentiality. Your data will be kept in a research lab and on a secure website. Any information that contains your personal identification

(e.g., acknowledgement of study completion on Sona-Systems) will be kept separate from any of the research data collected.

Benefits: You will not directly benefit from participating in this research. Benefits to society include examining the potential positive benefits of video game perspective taking. The research also has the benefit of potentially being shared with both professional and public audiences, however, no personal information about our participants would be shared in those communications.

Confidentiality: We plan to publish the results of this study. We will not publish any information that can identify you. We will keep your response information confidential by using a code to label the data. That data, however, will not be linked to identifiable information about you. The response information will be stored in a password-protected file on a password-protected website that only the researchers have access to. We will store your response information for at least five years after this project ends, but we may store your information indefinitely. We will make every effort to keep your information confidential, however, we cannot guarantee confidentiality. The principal investigator and the research team will have access to the information you provide for research purposes only. Other groups may have access to your research information for quality control or safety purposes. These groups include the University Human Subjects Review Committee, the Office of Research Development, the sponsor of the research, or federal and state agencies that oversee the review of research, including the Office for Human Research Protections and the Food and Drug Administration. The University Human Subjects Review Committee reviews research for the safety and protection of people who participate in research studies.

Compensation: You will not be paid to participate in this research, and you will receive not tangible benefits from your participation. You may, however, receive .75hours of experimental credit that you might be able to apply to select psychology classes (it is upon you to know whether or not your instructor awards course credit for completing experiments).

Contact Information: If you have any questions or concerns about the research, you can contact the Principal Investigator, Dr. Rusty McIntyre, at rmcinty4@emich.edu or by phone at 734-487-2406, or the research assistant, Chris Corr, at ccorr@emich.edu. For questions about your rights as a research subject, you can contact the Eastern Michigan University Office of Research Compliance at human.subjects@emich.edu or by phone at 734-487-3090.

Voluntary participation: Participation in this research study is your choice. You may refuse to participate at any time, even after beginning the study online, with no penalty. You may choose to leave the study at any time. If you leave the study, the information you provided will be kept confidential.

Statement of Consent: I have read this form. I have had an opportunity to ask questions and am satisfied with the answers I received. By continuing on to the survey portion of the tasks I give my consent to participate in this research study.

Yes, I consent (1)

No, I do not consent (2)

Skip To: End of Survey If Purpose: To assess attitudes towards punishment. Study Procedures:
Participation in this study... = No, I do not consent

End of Block: Consent Block

Start of Block: Intro Block

Q7 The purpose of this research is to test experimental materials for further use in our laboratory. Our lab has done previous work with video games, and we intend to test some new materials for later use. In the following video we have game play from the game Saints Row. We would like you to imagine that you are playing as the avatar you see in the video. Following the video there will be questions for you to answer, we ask that you complete these to the best of your ability.

End of Block: Intro Block

Start of Block: Block 13 Empathy Instructions

Q115 In order to get you used to the online system for research, we are going to have you read over a few essays that were drafted by other students in another study. In each, we want you to

carefully read over the essays to get a sense for how well you can feel the sentiments of the authors. You will read two essays in random ordering.

Please read each essay carefully, and really try to get a feel for what the author is expressing.

Please answer each of the questions for the essays.

End of Block: Block 13 Empathy Instructions

Start of Block: Block 14 Empathy measure from DeWall and Baumeister

Q116 Two days ago I broke up with my boyfriend. We've been going together since our junior year in high school and have been really close, and it's been great being at EMU together. I thought he felt the same, but things have changed. Now, he wants to date other people. He says he still cares a lot about me, but he doesn't want to be tied down to just one person. I've been real down. It's all I think about. My friends all tell me that I'll meet other guys and they say that all I need is for something good to happen to cheer me up. I guess they're right, but so far that hasn't happened.

Tenderness (4)	C	C	C	C	C	C	C	C	C	C	C	O
Softheartedness (5)	C	C	C	C	C	C	C	C	C	C	C	O

End of Block: Block 14 Empathy measure from DeWall and Baumeister

Start of Block: Video Block

Q1

Answer each of the following questions while watching the video.

Q1 Prison infirmary	Q1 In a park	Q1 in a jail cell
Q2 A wallet	Q2 A police baton	Q2 A gun
Q3 A bicycle (1)	Q3 In a boat (2)	Q3 A police car (4)

Q1. Where does the video begin? (4)

Q2. What is the first item the main character wields in his hands? (5)

Q3. The main character makes his escape in what kind of vehicle (6)

Q6

Q1 Prison infirmary

Q1 In a park

Q1 in a jail cell

Q2 A wallet

Q2 A police baton

Q2 A gun

Q3 A bicycle (1)

Q3 In a boat (2)

Q3 A police car (3)

Q1. Where does the video begin? (4)

Q2. What is the first item the main character wields in his hands? (5)

Q3. The main character makes his escape in what kind of vehicle (6)

End of Block: Video Block

Start of Block: Block 12 RAS Instructions

Q114 In the next section of the study, we are going to have you read six arguments that were found in national news stories. Your task is to evaluate the conclusions based upon excerpts of those stories.

2 (2)

3 (3)

4 (4)

5 Very much (5)

RAS2

The U.S. government is built on a representative democracy that means that politicians are elected to represent their constituents in making the country's decisions. However, the political construction of power in the United States does not allow adequate representation of African Americans, as shown by the few African American politicians who have attained political positions in the highest levels of our government.

Conclusion: The political parties should allow and support the rise of African American politicians within the parties to guarantee fair representation of African Americans in the government of this country.

How well do you think the argument supports the conclusion?

1 Not at all (1)

2 (2)

3 (3)

4 (4)

5 Very much (5)

RAS3

Experts have argued that SAT scores for African Americans may be lower than for Whites due to the poorer opportunities available to African Americans for education. However, the SAT is a valid predictor of college performance, and no concessions should be made for African Americans. Lower scores mean poorer performance, and a sliding scale would only promote future failure for African Americans with low SAT scores regardless of why they get low SAT scores.

Conclusion: African Americans should not be given leniency for low SAT scores in the college admissions process.

How well do you think the argument supports the conclusion?

1 Not at all (1)

2 (2)

3 (3)

4 (4)

5 Very much (5)

Ras4

Recent educational studies have shown that African Americans who do poorly in school may do so because of language difficulties and cultural differences. It has been argued that the use of familiar language and relevant cultural examples in the education of African American children can help to improve the performances that African American children show in school.

Conclusion: School systems should incorporate material into their curricula that is sensitive to African American culture in order to better educate African Americans.

How well do you think the argument supports the conclusion?

1 Not at all (1)

2 (2)

3 (3)

4 (4)

5 Very much (5)

RAS5

The United Negro College Fund helps to pay the tuition and expenses that allow African Americans to go to college. While no doubt benefiting African American students, this organization is unconstitutionally biased in that it does not offer financial assistance to White students as well. Meanwhile, thousands of White students continue to miss out on furthering their education due to financial limitations.

Conclusion: The United Negro College Fund should be forced, by law, to provide financial resources to both White and African American students.

How well do you think the argument supports the conclusion?

1 Not at all (1)

2 (2)

3 (3)

4 (4)

5 Very much (5)

RAS6

Articles written about athletes consistently describe White athletes as “intelligent,” “hard-working,” and “crafty” and describe African American athletes as “talented,” “flashy,” and “athletic.” These biased descriptions serve to promote the stereotype that African American athletes are not as intelligent as White athletes and fail to credit African American athletes for their intelligence, discipline, and work ethics.

Conclusion: Biased descriptions of athletes should be avoided to stop perpetuating the stereotype that African American athletes are less intelligent than White athletes.

How well do you think the argument supports the conclusion?

1 Not at all (1)

2 (2)

3 (3)

4 (4)

5 Very much (5)

End of Block: Block 11RASitems

Start of Block: Block 11FloydGruverinstructions

Q113 In the next section of the study, we want you to reflect on recent events that you may be aware of. Note, that in each of these cases, a possible homicide had occurred. Please do your best to infer what had happened in the events, and who might be responsible.

End of Block: Block 11FloydGruverinstructions

Start of Block: Response Block

Q2

situation?
(5)

End of Block: Response Block

Start of Block: Attitude Block

Q34 Please answer the following questions to the best of your ability.

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	Choose not to answer (8)
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12. Inferior groups should stay in their place. (12)
-

End of Block: Attitude Block

Start of Block: Demographic/Knowledge

Q9 What race do you identify as?

- Caucasian (1)
- African American (2)
- Hispanic / Latino (3)
- Asian (4)
- Pacific Islander (5)

Other (6) _____

Q10 What is your age?

Q11 What is your current income range?

\$0 - \$10,000 (1)

\$10,001 - \$40,000 (2)

\$40,001 - \$85,000 (3)

\$85,001 - \$161,000 (4)

\$161,001 - \$204,100 (5)

\$204,101 - \$510,300 (6)

\$510,301 + (7)

Q13 How familiar are you with the game Saint's Row?

Extremely familiar (1)

Very familiar (2)

Moderately familiar (3)

Slightly familiar (4)

Not familiar at all (5)

Q14 How familiar are you with RPG's? (Role-playing games)

Extremely familiar (1)

Very familiar (2)

Moderately familiar (3)

Slightly familiar (4)

Not familiar at all (5)

Q15 How familiar are you with the George Floyd case?

Extremely familiar (1)

Very familiar (2)

Moderately familiar (3)

Slightly familiar (4)

Not familiar at all (5)

Q18 Are Black people treated more unfairly by police than those of other races?

Yes (1)

No (2)

Q16 How familiar are you with the D. Dorn case?

Extremely familiar (1)

Very familiar (2)

Moderately familiar (3)

Slightly familiar (4)

Not familiar at all (5)

Q20 Are rioters responsible for the police/military action taken against them?

Yes (1)

No (2)

Q17 How familiar are you with the Maxwell Gruver case?

Extremely familiar (1)

Very familiar (2)

Moderately familiar (3)

Slightly familiar (4)

Not familiar at all (5)

Q32 Are the fraternity students who initiated the hazing at fault for the actions taken against them?

Yes (1)

No (2)

End of Block: Demographic/Knowledge

Start of Block: Cleanup Questions

Q21 If you had to guess, what was this study about?

Q22 If you had to guess, why do you think we had you imagine playing a video game while watching it on a screen?

Q103, Do you know the race of George Floyd?

African American (1)

Asian American (2)

Hispanic / Latino (3)

White / Caucasian (4)

Other (5)

I don't know (6)

Q104, Do you know the race of David Dorn?

African American (1)

Asian American (2)

Hispanic / Latino (3)

White / Caucasian (4)

Other (5)

I don't know (6)

Q105, Do you know the race of Maxwell Gruver?

African American (1)

Asian American (2)

Hispanic / Latino (3)

White / Caucasian (4)

Other (5)

I don't know (6)

Q30 Are you a supporter of the Black Lives Matter movement?

Definitely yes (1)

- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q31 Are you a supporter of the Blue Lives Matter movement?

- Definitely yes (1)
- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q28 Have you ever protested for Black Lives Matter?

Definitely yes (1)

Probably yes (2)

Might or might not (3)

Probably not (4)

Definitely not (5)

Q29 Have your protested for Blue Lives Matter?

Definitely yes (1)

Probably yes (2)

Might or might not (3)

Probably not (4)

Definitely not (5)

Q23, Do you wish for a reduction in police-on-Black violence?

Definitely yes (1)

Might or might not (2)

Definitely not (3)

Q24, Do you wish for a reduction in protests that instigate police violence?

Definitely yes (1)

Might or might not (2)

Definitely not (3)

End of Block: Cleanup Questions

Start of Block: Debrief Form

Q38 Thank you for participating in this study! This form provides background about our research to help you learn more about why we are doing this study, to add your input about the study, and to have any concerns you may have addressed. Please feel free to ask any questions or to comment on any aspect of the study.

At the beginning of this study, you were told that the purpose was to assess your feelings about punishment and responsibility, and you were also told that the study was pilot testing some videos. As you may know, some studies use deception in situations where there is no other way to conduct the experiment without a level of bias. We are very sorry to say that the current study did involve deception. Unfortunately, it was necessary to use deception because, had participants know the true nature of the study, responses would have been likely to change.

In reality, the purpose of this study is to investigate how embodying the actions and mentality of the video game avatar can influence your perceptions of punishment and responsibility in recent, notable homicide cases. Additionally, you completed some scales giving us a baseline of your attitude towards these incidents in general. The expected hypothesis is that people who embody the Black avatar will respond more strongly towards incidents of homicide and feel more inclined to punish those responsible (as well as assign responsibility) compared to people who do not embody the Black avatar or who were presented with a White avatar. The general idea is that video games might increase a person's willingness to empathize with others. Please understand that we are sorry for using deception in this research. In order to keep you, the participant, unaware of our hypothesis the explanations for why we're having you watch the

videos and answer questions were created to present you with a reasonable cover story for our research.

The data from this study (if successfully supporting our hypotheses) will be presented in research journals or at a professional conference. We want to assure you, however, that no identifying information about you will be used. All data will be kept secure, only to be analyzed by trained researchers. Nonetheless, if you feel uncomfortable with this study, your participation in this is still voluntary. If you wish, you may withdraw after reading this debriefing form, at which point all records of your participation will be destroyed. You will not be penalized if you withdraw. You can also feel free to contact the faculty advisor for this research with any further questions.

<u>Investigator</u>	<u>Contact Number</u>	<u>Email</u> Rusty McIntyre
(734)536-4105	rmcinty4@emich.edu	

If you want more information about your rights as a participant or want to report a research-related harm, you may contact the Institutional Review Board at (734) 487-3090.

End of Block: Debrief Form

Start of Block: Data Deletion

Q36 If you feel uncomfortable with this study, your participation in this is still voluntary. If you wish, you may request to have your data deleted.

I am okay with this study, you may use my data. (1)

Please do not use my data, please delete it. (2)

End of Block: Data Deletion

Start of Block: Block 10

Q103 I wish to earn SONA research credit:

Yes (1)

No (2)

End of Block: Block 10