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Children's Perceptions of Ambiguous Interracial Interactions : Behavior and Size Judgments

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Abstract

Classic work in social psychology found that children's perceptions of ambiguously aggressive events are biased by race (Sagar and Schofield, 1980). The present research is an attempt to extend upon that work by including an examination of perceptions of the physical size of vignette actors, based on more recent work by Wilson et al. (2017). In this study, 41 children aged 9-13 were recruited to watch cartoon clips of vignettes of Black and White characters in ambiguously aggressive interactions. Participant watched one clip of each target-actor race combination and rated many characteristics (e.g. mean, friendly) of the targets and actors. In a separate task, participants were shown the faces of the same characters from the vignettes with some additional unseen faces and rated how tall and heavy they appear to be using visual scales. I hypothesized that participants would generally view black actors as meaner and more threatening than White actors, and that these race differences would be mediated by a "size bias" such that Black actors would be seen as larger than White actors. Most hypotheses were not confirmed, although participants did rate Black actors to be stronger than White actors. These findings suggest that future research is needed to shed further light on the processes that impact stereotype-consistent judgments of ambiguously aggressive interactions.

Montclair State University

Children's Perceptions of Ambiguous Interracial Interactions: Behavior and Size

Judgments

by

Julia Wefferling

A Master's Thesis Submitted to the Faculty of

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Children's Perceptions of Ambiguous Interracial Interactions: Behavior and Size Judgments

Racism and anti-black biases have existed in America and across the rest of the globe as long as race has existed as a construct (Dovidio & Gaertner, 1986; Van Dijk, 2000). However, this racism has shifted overtime from overt racism to something known as modern racism (Fairchild, 2000, p. 213). Fairchild (2000) explains that modern racism is expressed through opposition of policy and the resulting negative consequences for Black individual's health and improper wealth distribution. Similar phenomenon can be described as *laissez faire* racism, meaning that people claim they are "color-blind" and do not see race, but still exists much inequality (Bobo, 2017; Bobo et al., 1997). While there are many reasons why such inequalities still exist, the focus of the current work is on the role of the perpetuation of stereotypes.

For a look at how negative stereotypes are transmitted, we can look to the media. For example, Black women are portrayed by the media as promiscuous individuals who have children to receive welfare money (Littlefield, 2008) while Black men are often portrayed as dangerous criminals (Oliver, 2003). The media consistently reporting Black individuals in a negative light does shape the public's perceptions of them. Negative reports can have serious negative impacts on Black individual's lives in situations relating to important policy. For example, in one study, when White participants were primed with negative stereotypic media targeting Black individuals, they were less likely to support helping Black people relative to White people who were in need (Johnson et al., 2009). In other work, when participants read negative Black male stereotypic information about a victim, participants believed that the victim was more at fault when reading about an altercation that resulted in a shooting death, than when

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they had read Black male counter-stereotypic information (Dukes & Gaither, 2017). Constant negative attention towards the Black community from the media has drastic consequences for the way Black people are perceived. These perceptions can lead to situations that are uncomfortable, extremely dangerous, and possibly even life-threatening for Black individuals (Edwards et al., 2019).

Perceptions of Black individuals as threatening results in situations that can be uncomfortable. For example, during situations such as job interviews, the non-verbal behaviors interviewers display towards Black versus White individuals making Black people feel less comfortable and welcomed during such interviews possibly resulting in fewer job hires (Word et al., 1974). Having such uncomfortable interactions with members of the Black community can lead to further discourse and inter-racial issues. Further, participants who interacted with Black or disadvantaged actors in a study displayed more cardiovascular threat responses than when interacting with their White or advantaged counterpart (Mendes et al., 2002). Similarly, the Black-threat stereotype is so strong that White participants reveal biased attention towards Black faces relative to White faces much in the way that threats such as spiders and snakes draw attention (Trawalter et al., 2008). Thus, showing that the stereotype that Black men are dangerous is entirely robust and largely unconscious (Trawalter et al., 2008). This stereotype existing so strongly in our society can result in life-threatening situations for Black individuals.

Black-threat stereotypes are not only uncomfortable, but also potentially dangerous for Black people. Racial bias is observed in tasks where individuals are shown a Black face on some trials and a White face on other trials and have to choose if they are being shown a gun or a harmless object such as a hand tool (Payne, 2001). Payne (2001) had two different conditions: a go-at-your-own-pace condition as well as a snap-judgement condition. In situations where

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participants could take their time, participants were mostly accurate, but did match weapons to Black faces faster; however, when they needed to make snap-judgements, guns were falsely detected more often when the face preceding the object was of a Black man rather than a White man (Payne, 2001). This phenomenon is often referred to as “weapon bias” and does not require any overt hostility towards African Americans. Rather, stereotypic associations are enough to elicit this negative response to occur when people do not have the time or capacity to control it (Payne, 2006). Similarly, in a simulation task where participants see either a Black or White man holding a harmless or harmful object and need to decide quickly to shoot or not to shoot, Black men are shot at faster, more frequently, and more inaccurately than white men (Correll et al., 2002). This phenomenon is referred to as “shooter bias” and is directly related to knowledge of the Black-threat stereotype (Correll et al., 2002). Further, shooter bias is explained as a faster response time to shoot armed Black men than armed White men in a split-second shoot-no shoot decision. Findings in such shooter bias tasks have also found that people are more likely to shoot innocent Black men than innocent White men when needing to make shoot/no shoot decisions quickly (Correll et al., 2002). From this work it is obvious that the implications of the Black-threat stereotype are dangerous and even deadly. The fact Black men elicit quicker response times in shooter and weapon identification tasks shows that our stereotypes and biases that are formed early in development can have extremely serious implications regarding life or death situations.

Race, Threat Stereotypes, and “Size Bias”

Similar to the Black-threat stereotype, there are also common stereotypes linking Black people to crime (Welch, 2007) in the minds of non-Black people. In some particularly striking work, Eberhardt and colleagues (2004) found that activating abstract concepts, such as crime,

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results in an attentional bias toward Black male faces explaining that there is a strong association between the concept of crime and Black males. Other related work shows that this criminal stereotype is connected to stereotypes linking race with physical size. In one study where participants described the “typical Black criminal” 76.5% of participants reported that they would be large (e.g. big, tall) whereas words like “blonde hair” and “nervous” were used to describe other races and ethnicities (MacLin & Herrera, 2006). Wilson et al. (2017) conducted a study regarding racial biases about judgements of size and ability to harm of both Black and White individuals. Across seven studies, participants who were shown the faces of Black men perceived them as taller and heavier than White men who were equivalent in size. Participants in this study also rated Black men as more capable of harm than White men (Wilson et al., 2017). This may be because White people tend to “superhumanize” Black people (Waytz et al., 2014) in ways that may make them seem larger than White people (Waytz et al., 2014; Wilson et al., 2017). This act of “superhumanization” may just be linked to stereotypes associated with Black men being capable of harm leading to them seeming much larger, but this direct association has not been studied extensively.

The Development of Racial Bias

Although no such research has been done with younger participants, children and even babies have shown evaluative associations that may help to lay the groundwork for these biases in adults. It should come as no surprise that children are aware of different races early in life, but it is developmental and individual differences that may influence judgements about discrimination (Brown & Bigler, 2005). For example, the more exposure an infant has to their own-race faces, opposed to other-race faces, the more the infant will visually prefer own-race faces. This finding is thought to be associated with the emergence of implicit bias in infants (Lee

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et al., 2017). Of course, it is possible that these implicit biases developed in infancy may be linked to the implicit biases of adults. Additionally, the way same and different race faces are scanned have been studied in both adults and children using eye-tracking. The results of the study concluded that both children and adults scan faces of their own race differently from faces of other races. More specifically, Chinese adults and children looked at Chinese faces in a much more fine-grained way than White faces since they have more exposure to same-race faces than other-race faces (Hu et al., 2014). Because both children and adults differentially scan faces, it seems possible that biases and differences made early on in life may last through adulthood. Further, research by Anzures et al. (2010) has shown that infants are able to categorize their own race faces at as early as 9 months of age but were unable to accurately differentiate other race faces at the same age. Specifically, the 9-month-old participants were able to differentiate exemplars and categorize same-race faces, but for other races, they were only able to group them as different than their same-race faces and could not differentiate exemplars (Anzures et al., 2010). This may be due to the exposure they have of their own race early on leading to a preference for own-race faces as shown in Lee et al. (2017). Similarly, in a study conducted by Quinn et al (2016), White 9-month-olds were shown to formulate an exclusive category of White faces, but a general inclusive category of "other" race faces including both Black and Asian faces. This phenomenon may also be the beginning of separating "us" versus "them" resulting in racial biases later in life (Quinn et al., 2016). Again at 9 months of age, infants associate happy music with own-race faces and sad music with other race faces. This association was concluded based on eye-tracking data where infants looked significantly longer at same-race faces when happy music was playing than when sad music was playing. This finding may provide evidence towards an implicit bias towards same race faces early on in development (Xiao et al., 2015).

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Having a strong implicit bias relating same-race to good and other-race to bad at just 9 months of age may begin to explain the strong preference for ingroups that people seem to have.

Central to the current work, a foundational study conducted by Sagar and Schofield (1980) studied perceptions of ambiguously aggressive acts in 6th grade children. In this study, Black and White children were shown a picture while verbally being told a vignette that matched the picture. In the vignettes, there was a target as well as an actor, or perpetrator. The manipulation in this study revolved around changing the races of both the actors and the targets to see if there would be differentiation in how the actions in the vignettes were interpreted depending on the race of the target and the actor. Participants were asked to rate the target and the actor on not only their behaviors, but their perceived personality traits as well. Their results concluded that Black and White children rate behaviors as meaner and more threatening when performed by Black actors than the same behaviors performed by White actors. Most personality trait ratings were context dependent, however, whether the Black child in the vignette was the actor or the target, the Black child was rated as stronger than the White child (Sagar & Schofield, 1980). It is important to note that each child only saw each race permutation (Black vs Black, White vs White, White vs Black, Black vs White) once and then this was compared across participants. This is important to note so that it remains clear that each participant was not comparing the same act by different races shown multiple times for comparison.

Thus, later in development than the abovementioned infant studies, based on Sagar and Schofield (1980), it is apparent that children think acts performed by Black students are meaner and more threatening than the exact same acts performed by White students. Racial biases early in life may relate directly to racial biases as an adult and lead to extreme and dangerous implications for Black men and other minorities. These biases have been studied in numerous

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ways using various methodologies. Across these various methodologies, the body of work offers convincing evidence that there are strong preferences for ingroup members (Hasler et al., 2017) with a bias that Black individuals are thought of as meaner, more capable of harm, larger, and stronger than White individuals (Sagar & Schofield, 1980). These biases can have serious and dangerous implications for Black men and may have been ingrained very early on in development. While there has been extensive research done on racial biases, there is a gap in the literature containing findings that combine the ideas of racial biases, Black men being more guilty, mean, and dangerous than White men, and size perceptions together. Additionally, there is a clear gap in the research regarding school aged children, even if there has been extensive work done developmentally with infants and young children, as well as with adults.

The goal of this thesis is to merge all of these ideas by doing a replication and extension of both Sagar and Schofield (1980) and Wilson et al. (2017) with school aged children. This will be done to bridge many gaps in the literature while studying the important onset of when these biases emerge and develop. Understanding the development and emergence of stereotypes and biases can inform researchers about when to intervene and try and remove such biases from children, and instead, teach them about equality and fairness of judgement. Gaining the tools and knowledge for a successful intervention would be an excellent step down the road that can begin with this paper. In order to understand how children think about the Black-threat and Black-large stereotypes, the methodologies from two previous studies mentioned briefly above (Sagar & Schofield, 1980; Wilson et al., 2017) will be adapted as my foundation. To delve deeper, these two central papers are discussed below.

Specific Background/ Hypothesis

A foundational study conducted by Sagar and Schofield (1980) studied 6th grade children's perceptions of ambiguously aggressive acts. In this study, Black and White children were shown a picture while verbally being read a vignette that matched the picture. The vignettes included a target and an actor whose race was manipulated across conditions to see if there would be a differentiation in the perception of the action based on the race of the actor. Participants were then asked to rate the target and the actor on their behaviors and their perceived personality traits. Their results showed that Black and White children rated behaviors as meaner and more threatening when performed by Black actors than the same behaviors performed by White actors. Most personality trait ratings were context dependent, however, whether the Black children in the vignette was rated to be stronger than the White children in the vignette, whether they were the actor or target (Sagar & Schofield, 1980). It is possible that these results are related to many findings in the adult literature that Black Americans are thought of as more threatening and capable of harm than White Americans.

One such set of studies was conducted by Wilson and colleagues (2017). In this work, adult participants rated Black men to be taller, heavier, and more capable of physical harm than White men of the same size (Wilson et al., 2017). This may be because people envision Black men to be significantly larger than White men (Holbrook et al., 2016) and this envisioning extends directly to concrete judgements of Black and White targets (Wilson et al., 2017). This act of imagining Black men to be extremely large, or "superhumanization," may be linked to stereotypes associated with Black men being capable of harm. This perception leads to Black men appearing much larger, but this direct association has not been studied extensively. Imagining Black men as large also results in a dangerous belief that police would be more

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justified in using force against these “large” Black men (Wilson et al., 2017). Again, there is a clear pattern between stereotypes and severe potential harm to Black individuals.

The goals of the proposed study are to attempt a modern replication and extension of Sagar & Schofield (1980), as well as to explore if children hold the same biases about Black children's size as adults do about Black men's size. It was hypothesized that children would rate ambiguous acts as meaner and more threatening when performed by a Black actor than a White actor, as shown in Sagar & Schofield (1980). It was also predicted that participants would rate the Black characters as stronger than their White counterparts. In addition to presenting participants with vignettes for the purpose of collecting trait ratings, perceptions of the physical size of vignette characters in a separate block were assessed. I predicted that participants would rate Black targets as taller and heavier than the White faces of the same size, as did adults in Wilson et al. (2017). These findings would add to a growing body of literature about children's biases and perceptions about race. Understanding when such biases start may inform researchers about why such biases exist and where they come from.

Method

Participants

Participants in this study were 41 children (21 male) between the ages of 9 and 13. The majority of the children were White (56%). Black and Asian children each made up 5% of participants with the remaining 34% not having demographic information collected. Three participants were 9-year-olds, 14 participants were 10-year-olds, 9 were 11-year-olds, 10 were 12-year-olds, and there were five 13-year-olds. They were recruited through fairs, emails, social media, and library programs from the area surrounding Montclair State University in New

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Jersey. Participants and their parents made appointments to participate in a lab study, although 26 participants completed the study online once in-person data collection became impossible due to the COVID-19 pandemic. Slight changes to the methodology for these participants are listed at the end of the Method section.

Materials & Stimuli

The stimuli for Block 1 of the study (Figure 1) was animated online through Vyond (previously GoAnimate) and was shown to participants in PowerPoint. The faces (Figure 2) used for height and weight ratings were also created through Vyond and presented to through Qualtrics. The weight scale (Figure 2) is widely available and used frequently for weight loss websites for children (Food Insecurity in Australia, 2016). The height scale (Figure 2) was made from a silhouette image from Google with each figure growing in height a little at a time.

Procedure

Participants were assigned to either the male or female condition of the study based on their own gender. This is different from Sagar & Schofield (1980), who only included boys in their study and did not have a female condition. After providing informed consent, participants received instructions explaining there are two components to the study. The first part involved watching four cartoon clips and filling out scales relevant to each clip and the characters therein, and the second part consisted of rating cartoon faces on their perceived height and weight.

The first component of the study included watching four different animated cartoon clips of ambiguous situations including: one child asks another for their cake, one child bumps into the other in the hallway, one child takes a pencil without asking, and one child continuously pokes another during class. These clips were accompanied by pre-recorded verbal vignettes as to not create any

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unintentional bias from the researcher. Two of the verbal vignettes were the exact ones used by Sagar & Schofield (1980), but the two others were written by the researcher in a way that mimics the syntactic format of the original stories. This was done out of necessity, as the other two vignettes are not publicly available, and the original researchers informed me that they no longer have possession of the stories (J. Schofield, personal communication, 2019). Each child viewed each cartoon clip once, with each of the race permutations (e.g., Black target & Black actor, Black target & White actor). An example of one condition of the study is displayed below (Figure 1) for each gender. After each cartoon video, the experimenter pointed to the target and said, "In this situation, he was the target" and to the actor and said, "In this situation, he was the actor." Then, participants answered how mean, friendly, strong, threatening, playful, harmless, and weak the actors and targets were on a scale from 1 (not at all) to 7 (very). After completing the first set of scales, participants watched the second vignette, and so on.

In the second block of the study, participants rated 32 faces (16 female, 16 male) on their perceived height and weight on a 5-point scale matched to scaled images. Each face was shown twice: once for a weight rating and once for a height rating. The scales used for rating are displayed below in Figure 2. Previous research by Saxton et al., 2009 found that children could accurately match their body size to a visual scale of different body sizes, so using these visual images seem appropriate. Similarly, Gardener et al., 1999 found that children are able to accurately measure body size in general by being able to accurately identify manipulations made to photographs of themselves. A subset of the faces was used throughout the animated vignettes, so participants previously had been exposed to eight of the 32 faces. Unbeknownst to the participants, each face they rated appeared twice, but with race manipulated by virtue of changing skin tone. That is, participants saw both a Black and White version of each face in the study. This manipulation allows

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for direct comparisons from one cartoon face to another and controls for the possibility that one race was truly taller and heavier than the other. Once the participants completed both blocks of the task, they received a small prize and were thanked for their time. Participants and their parents were then fully debriefed. After the participant left, the paper response forms were transferred into digital form and discarded.

As was mentioned above, due to COVID-19, some methodological changes were necessary after collecting the data of the first 15 participants. Twenty-six children completed the online version of the task (14 male). They were recruited through emails and social media. Once the participant and their parents scheduled a time to participate in this study, they were sent hard copies of the consent forms for their records along with a link to a Zoom video conference link for their expected date and time.



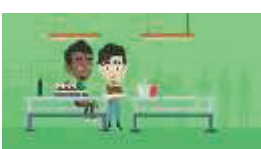





At the time of the meeting, the participant joined the Zoom meeting via the link. The experimenter greeted the participant and told them that he or she would be present for the duration of the study to answer any questions. Then, the link to the Qualtrics survey was sent to the participants. Once the participant clicked on the link, they had to enter their unique participant ID and complete and sign informed consent. Immediately following the completion of informed consent, the study prompted parents to leave their child to do the study with no distractions. The child then read instructions explaining that there are two parts to the study. The first part consisted of watching four cartoon clips and filling out scales relevant to each clip on the computer, and the second part consisted of rating cartoon faces on their perceived height and weight via Qualtrics.

Everything about the first component of the study was identical to the in-person version, except that after the video there was a screenshot with an arrow pointing to the actor first with a

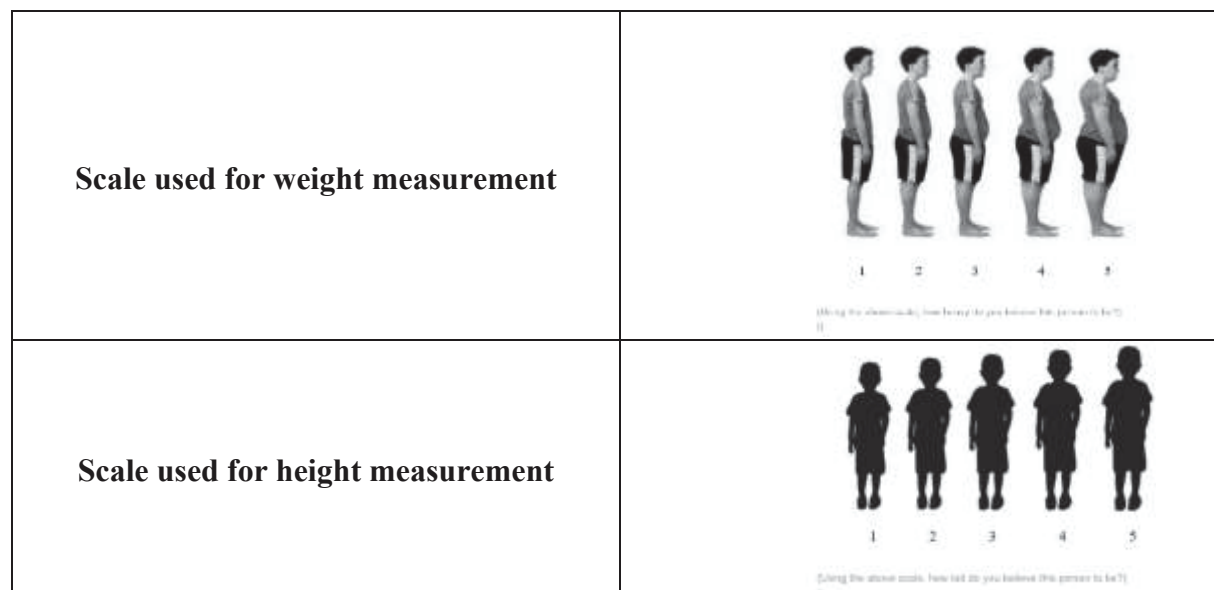
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description reading “In this situation, he was the actor” and “In this situation, he was the target.” The second component of the study is identical to the in-person version of the task, as this component was always online. This procedure was pilot tested with a 9-year-old child who was able to successfully understand the task. Modality (face-to-face vs. online) never significantly moderated any findings and will not be further discussed in the Results section.

Figure 1*Stimulus for Block 1 of the Study: Vignette Ratings*

Scenario (Note: the participants see animated clips, not static images)	One child takes a pencil without asking	One child bumps into the other in the hallway	One child asks another for their cake*	One child continuously pokes another during class*
Male condition example				
Female condition example				

Note: Clips were animated. * denotes same verbal vignette used in Sagar & Schofield (1980).

Figure 2*Stimulus for Block 2 of the Study: Size Ratings***Results****Vignette Ratings***Ratings as a Function of Actor and Target Race*

I began by analyzing the ratings of the characters depicted in the vignettes. Before analyzing the data, all trials were coded as a function of actor and target race, collapsing across vignette content. This resulted in a 2 (Actor Race) \times 2 (Target Race) within-subjects design. Then separate repeated-measures ANOVAs for each trait rating DV (mean, threatening, playful, friendly, strong, weak, harmless) for both actors and targets were conducted.¹ Overall, there were

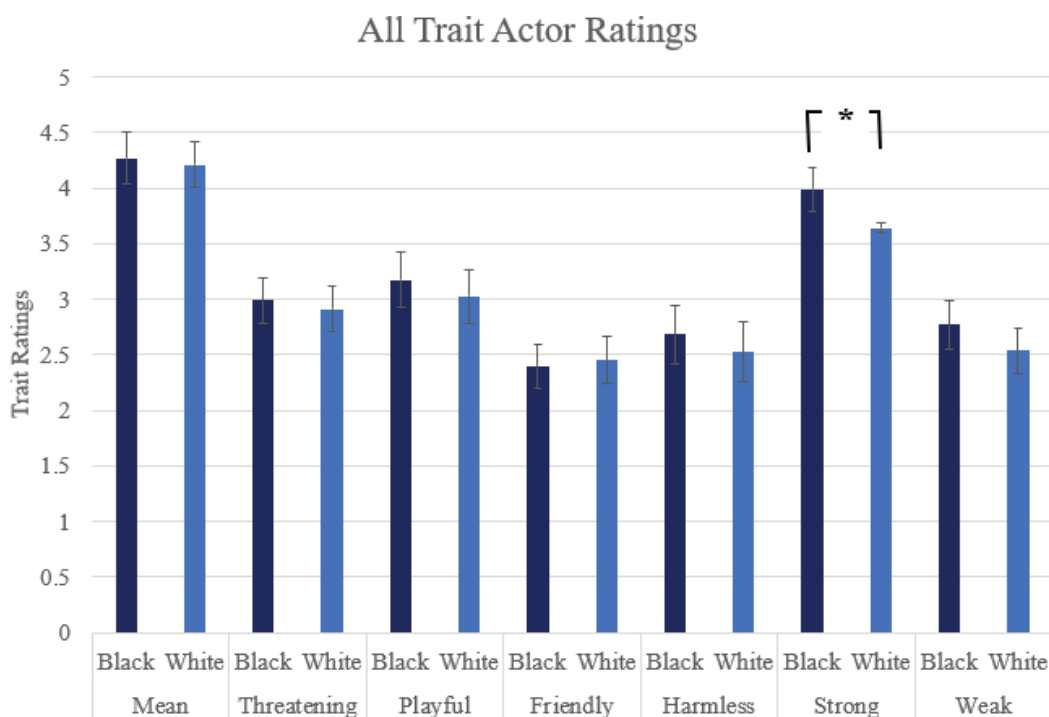
¹ I initially explored the possibility of combining trait ratings into composites, but traits did not consistently load onto the same factors across race and for both actors and targets.

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few effects of note. For actor ratings, the only significant effect was that Black actors ($M = 3.99$, $SE = .20$) were rated stronger than White actors ($M = 3.64$, $SE = .20$, $F(1,39) = 4.45$, $p = .04$, partial eta squared = .102). For target ratings, there were no significant differences in trait ratings based on race, all $F_s < 2.88$, all $p_s > .098$. Actor and target race never significantly interacted, all $F_s < 2.18$, all $p_s > .15$. Means for these ratings are plotted in Figure 3 below.

Figure 3

Actor Ratings for All Traits as Function of Actor Race



Note. Error bars represent +/- 1 standard error. Asterisk denotes significant difference.

Size Ratings

Height

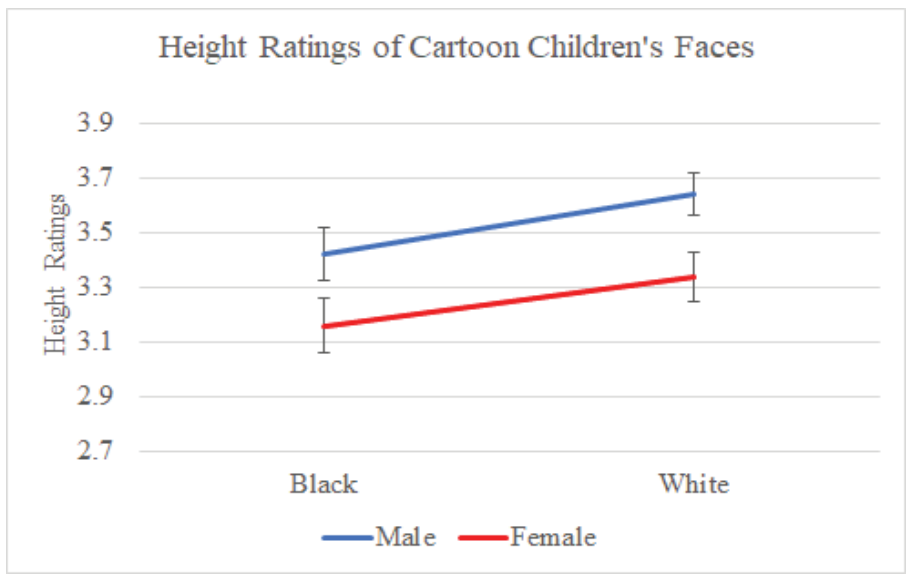
I next analyzed ratings of target size, separately for height and weight. Height ratings were analyzed first using a repeated-measures ANOVA with race and gender of the target as the two factors. Not surprisingly, participants estimated male targets ($M = 3.53$, $SE = .79$) to be

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significantly taller than female targets ($M= 3.252, SE= .08, F(1,39) = 13.90, p = .001, \text{partial eta squared}= .26$). We observed a different pattern than hypothesized with participants estimating Black targets ($M= 3.29, SE= .05$) to be significantly shorter than White targets ($M= 3.49, SE= .069, F(1,39) = 9.37, p=.004, \text{partial eta squared}= .19$). There was no significant interaction observed ($F(1,39)= .144, p= .707, \text{partial eta squared}= .004$).

Figure 4

Height Ratings for Children’s Cartoon Faces



Note. Error bars represent +/- 1 standard error.

Weight

I then analyzed weight ratings similarly. There was no significant difference in the perceived weight of the male ($M= 2.19, SE= .072$) and female targets ($M= 2.23, SE= .073, F(1,39) = .34, p = .56, \text{partial eta squared}= .008$). There was significant effect observed in the unexpected direction with Black targets ($M= 2.15, SE= .071$) being rated as significantly less

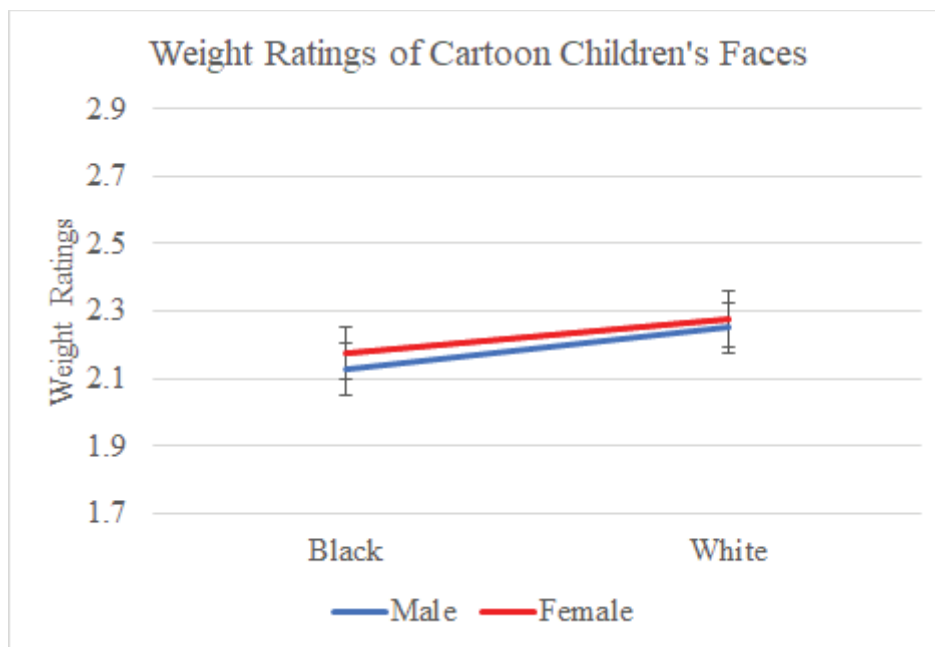
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heavy than White targets ($M= 2.26$, $SE= .068$, $F(1,39) = 6.49$, $p = .015$, partial eta squared= .14).

There was no significant interaction ($F(1,39)= .04$, $p= .84$, partial eta squared= .001).

Figure 5

Weight Ratings for Children's Cartoon Faces



Note. Error bars represent +/- 1 standard error.

Discussion

This study was a contemporary replication and extension of classic work by Sagar & Schofield (1980), with a focus on investigating whether racially biased interpretations of actor behavior in ambiguously threatening circumstances would be related to over perceptions of the size of Black avatars. By and large, my hypotheses were not confirmed. There were some traits in which Black actors were rated as directionally different than White actors (e.g., mean, threatening, and playful), but these differences did not reach significance. Interestingly, the one

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significant effect that was found was that Black actors were judged to be stronger than White actors. This is consistent with both the findings of Wilson et al. (2017) and Sagar and Schofield (1980); adults and children rated Black targets and actors to be stronger than White targets and actors. Perhaps strength is a highly robust stereotype, even among children, whereas the other stereotypes tested in this work are not as pervasive. For example, children may be more reluctant to express that Black individuals are “bad,” especially in a study with cartoon stimuli engaging in ambiguous behaviors. Thus, it is possible that thinking about the strength of an individual is not perceived as being evaluative in the same way that other traits are.

Regarding size judgments, as expected, the male targets were rated to be taller than the female targets. However, the rest of the observed results did not confirm hypotheses. Based on the data, children did not show the pattern that adults display where they rate Black targets to be taller and heavier than White faces. In fact, they showed the reverse pattern. This could not have occurred due to any actual differences in the sizes of faces used, because the faces of the characters were the same size and based on the same original face. There are multiple possible explanations for this finding. First, it is possible that children have not yet developed the tendency to show the bias that adults show, because this bias may require more experience and exposure to the media and broader culture for size bias tendencies to develop. It is also possible that my participants have not yet developed such biases because of a lack of exposure to children of other ethnicities, as most participants in this work are children that come from predominantly White, affluent communities surrounding Montclair, NJ. Another possibility that is perhaps more plausible is that the cartoon faces used in this work were not sufficiently realistic and do not evoke the same reactions that real faces would evoke. While cartoon character stimuli and puppets are often used in developmental research (Hamlin et al., 2010; Hamlin et al., 2011),

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there are differences in the way infants and children process human faces versus schematic faces (Schwarzer & Zauner, 2003; Rosset et al., 2009). Similarly, typically developing children process real and cartoon faces in distinct ways with real faces being more easily recognizable when faces are upright versus inverted, and cartoon faces being equally recognizable whether they were upright or inverted (Rosset et al., 2009). Because of the differences when comparing real to cartoon faces, it remains possible that the expected effect did not occur due to the stimuli used. This is a limitation in the study design, and future work should be conducted with faces of actual children if possible. Even better, research should use full-body photographs or in-person with live partners for maximum validity. The reasons this was not done originally is twofold – there does not currently exist a database of children's faces that the author knew about at the time of development of the study, and the heights and weights of the children would be unknown, thus, not allowing us to know whether if the results were from a bias or just their true height and weight. Regardless, this is something that should be looked at in future studies.

Limitations and Future Directions

This study is certainly not without limitations. To begin, the study was likely underpowered with 41 participants. The critical conditions were all within-subjects, which increases power, but it would be helpful in future work to be able to recruit more participants, so that the patterns that began to emerge might become clearer. Additionally, some of the wording in the first portion of the study was confusing for the children. Some of them did not understand how certain words, such as “playful” and “harmless,” were to apply to the actors and targets, and others were confused that traits changed in valence, but were to be used with the same scale response. In the future, children should be given a practice round to go through with the experimenter going over all the scales and wording using an unrelated vignette. Another

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limitation is within the size judgment portion of the study, in which a few children mentioned that they see the same face identity twice with different skin colors. This was done to ensure that the faces are all the same height and weight, but children recognizing this may have affected responses. In the future, it would be optimal to double the number of face identities and counterbalance which set of faces are seen by each participant, so all the faces are rated, but not all by the same participant. Another component of both tasks that may have been troublesome in finding effects is because the cartoon children were all programmed to have neutral faces; however, these neutral faces did look somewhat positive and resembled a smile. This may have alleviated any type of idea of threat being put forward by the characters otherwise, thus having results that are less robust than expected. Lastly, because this study had to be moved to online, some children were quite distracted talking to their parents and getting up a few times even though the parents were instructed to have the child sit by themselves in a quiet room to improve focus. Although analyses showed no differences in racial bias whether the study was online or in person, when an experimenter is sitting next to them rather than over the computer, it seems likely that the child would improve their focus.

An additional explanation is that these children may have been aware that this study was about race and may have felt a desire to control possible biased responses. It is possible that children were overly careful in their answers due to a heightened sense of race acknowledgement and the children being uncomfortable discussing race and appearing 'racist.' A study done by Apfelbaum et al. (2008) shows that children aged 10-11 are more sensitive to race and racial topics relative to their younger counterparts. Throughout the above-mentioned study, children were playing a game that clearly required mentioning race, but the older children (10-11 years)

were not comfortable doing so and underperformed in the task. Participants in this study may have been old enough to believe that they should not let race affect their responses.

Conclusion

This study provided some evidence for the hypothesis while simultaneously leaving many open questions. One finding that is consistent with past work is that participants rated Black actors to be stronger than White actors. Perhaps there is something special about strength in the sense that thinking Black individuals are strong first may lead to them also appearing tall and heavy. This is an empirical question and would require further testing to investigate thoroughly.

Although most of the results did not confirm the hypotheses, the results lead to additional future questions for study. It is suggested this study be repeated with a larger and more diverse sample size. Additionally, in future studies, it would be helpful to conduct a practice block so that the experimenter can explain all scales and traits to the participants for them to understand the reverse-coded items. Future work may also probe the potential for differing relationships between traits based on the race of those depicted. For example, "strong" may be more closely related to "mean" for Black characters than for White characters, largely due to race-based threat stereotypes. The race differences in factor analysis mentioned above offer initial evidence for such an effect, and future work will specifically probe this question.

Overall, although most of the hypotheses were not confirmed, this work can serve as a valuable building block of ongoing research on the ways in which race may bias perceptions of the social world from a young age. Crucially, this work lays the groundwork for ongoing work

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on strength and size perception in children and the relationships between strength, size perception, and threat perception.

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