Reducing Children's Implicit Racial Bias through Exposure to Positive Outgroup Exemplars

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Abstract

Studies with adults suggest that implicit preferences favoring White versus Black individuals can be reduced through exposure to positive Black exemplars. However, it remains unclear whether developmental differences exist in the capacity for these biases to be changed. In the current study we examined whether White and Asian children’s implicit racial bias would be reduced following exposure to positive Black exemplars, and whether this would be moderated by age. We found evidence that children’s implicit pro-White bias was reduced following exposure to positive Black exemplars, but only for older children (M_{age}=~10-years). Younger children’s (M_{age} =~7-years) implicit bias was not affected by this intervention. These results suggest developmental differences in the malleability of implicit racial biases and point to possible age differences in intervention effectiveness.

Reducing Children's Implicit Racial Bias through Exposure to Positive Outgroup Exemplars

The widespread protests following the deaths of Michael Brown, Eric Gardner, Andrew Loku, Trayvon Martin, Walter Scott and other unarmed Black men killed by police officers serve as a stark reminder of the continued perception and experience of racial bias in North America. Indeed, research suggests that the media are fraught with negative stereotypes associating Blacks with violence, and this biased exposure contributes to ongoing prejudice against Black individuals (Dixon, 2008; Dixon & Linz, 2000; Fujioka, 1999; Mastro & Greenberg, 2000; Tukachinsky, Mastro, & Yarchi, 2015). For example, when non-Black participants were exposed to news stories about Black criminals, they were more inclined to shoot a Black target, as opposed to White criminals and White targets, in a computerized shooter task (Correll, Park, Judd & Wittenbrink, 2007). Conceptually similar studies have shown that stereotypes associating Blacks with violence are related to higher rates of shooting Black targets in the shooter task (Correll, Park, Judd & Wittenbrink, 2002; Correll et al., 2011; Eberhardt, Goff, Purdies & Davies, 2004). Together, these studies highlight the relationship between media exposure, implicit racial bias, and overt behavior.

Although implicit racial bias is only one of a number of factors that can contribute to the prevalence of prejudice directed against Black-Americans, the broad influence of implicit bias on behavior in a number of domains (e.g., gender, consumer and political preference, alcohol and drug use, etc.; Greenwald et al., 2009) underscores the need to understand how best to reduce such deleterious attitudes, with a specific focus on those attitudes that are directly linked to discriminatory behavior toward culturally stigmatized groups. To date, a number of studies have demonstrated that implicit intergroup biases can be successfully reduced in adults (Lai, et al., 2014). For instance, researchers have found that interventions that promote direct (e.g., personal contact with out-group members) and indirect (e.g., reading information about counter-stereotypical exemplars) contact can reduce intergroup bias (Dasgupta & Greenwald, 2001; Foroni & Mayr, 2005; Gonsalkorale et al., 2010; Pettigrew & Tropp, 2006). Unfortunately, the magnitude of implicit bias reduction is relatively small among adult samples, suggesting that adulthood might not be the optimal period in development to reduce implicit biases (Baron, 2015).

Implicit Bias in Childhood

The results of multiple studies with children suggest that implicit preferences for high-status racial groups (e.g., White) over lower status groups (e.g., Black) emerge early in childhood at levels that remain stable across development (Baron, 2015; Baron & Banaji, 2006, 2009; Dunham, Chen, & Banaji, 2013; Newheiser & Olson, 2012; Rutland et al., 2005). Further, research also suggests that these biases are stronger in ethnically homogenous communities (McGlothlin & Killen, 2006). However, the developmental invariance of implicit biases does not necessarily mean that these biases are equally amenable (or resistant) to change across development (Baron, 2015). Specifically, it remains unclear whether developmental differences exist with respect to the capacity to reduce implicit racial bias. In the present study, we examined whether there are developmental differences in the capacity to reduce implicit racial bias through exposure to positive outgroup exemplars.

On the one hand, implicit bias might be most amenable to change during early childhood when such cognitions initially form and before they have been extensively reinforced through experience (Devine, 1989; Greenwald & Banaji, 1995, Rudman, 2004). Studies have shown that novel biases, though difficult to reverse, can be reduced significantly immediately following their initial formation (Gregg et al., 2006). There is robust evidence that children have acquired implicit racial bias by age five (Baron, 2015; Dunham, Baron, & Banaji, 2008), and according to this view, age five or earlier might be the optimal period to shape the magnitude of these attitudes.

On the other hand, based on evidence from social cognitive development research, it is plausible that implicit bias might be more amenable to change among older children. Research suggests that cognitive flexibility increases with age (Aboud, 2005; Aboud & Amato, 2001; Bigler & Liben, 2006), and this mechanism might better allow older (as compared to younger) children to shift their evaluations of a racial group after being presented with counter-stereotypical information about that group (Lai et al., 2014). Furthermore, in contrast to younger children (5-7 years), older children (8-10 years) from majority groups have lower explicit prejudice against outgroups, potentially due to motivational processes (Raabe & Beelmann, 2011). Thus, older children might be more capable of integrating counter-stereotypical information with their prior beliefs about people who are Black. As noted earlier, although implicit biases can be reduced among adults, the magnitude of change is generally quite small. Despite the fact that cognitive flexibility continues developing into adulthood, implicit biases might be more easily reduced in older children than in their adult counterparts because they have received comparatively less reinforcement of the prevailing cultural attitudes about social groups.

The Current Study

In the current study we investigated (a) whether children's implicit racial attitudes can be reduced, and (b) if developmental differences exist in the capacity to reduce implicit racial bias among children. To address these questions, we adopted an intervention method that has been used successfully to reduce implicit bias among adult populations (Dasgupta & Greenwald, 2001; Foroni & Mayr, 2005; Gonsalkorale et al., 2010; Lai et al., 2014) as well as explicit bias among similarly aged children (Baron, Dunham, Banaji, & Carey, 2014): Exposure to counter-stereotypical exemplars. Through the use of vignettes, our method exposed participants to Black individuals who were represented in a very positive frame- a depiction that contrasts with the larger cultural messages that contribute to the stigmatization of Blacks in North America (Fujioka, 1999; Mastro & Greenbarg, 2000; Eberhardt, Goff, Purdies & Davies, 2004). We used this method to examine whether a brief exposure to vignettes depicting positive Black exemplars, as compared to either positive White exemplars or, in our main control condition, flowers, would reduce implicit racial bias among children.

Our study only included children of Caucasian and Asian ethnicity, two groups that display a clear implicit bias for White individuals over Black individuals (Dunham, Baron & Banaji, 2006) and who represent the culturally higher status groups in our community. As there is a dearth of research on potential developmental differences in the malleability of implicit associations, we compared the effectiveness of our intervention in younger (early to middle childhood) and older (late childhood to early adolescence) children- groups that differ substantially on a variety of measures of cognitive flexibility and executive control (Zelazo, Carlson & Kesek, 2008). Our study had a 2 (Age group: Younger or Older) x 3 (Condition: Black, Flowers, White) x 2 (Ethnic group: Caucasian or Asian) design.

Method

Participants

A total of 369 White and Asian children between 5-12 years (184 males and 185 females, M_{age}=8.61 years, SD=1.61) were recruited from a community based science center in 2013-2014, and were tested onsite in a soundproof room dedicated for behavioral science research. Six of these children were excluded from our analyses due to a profound language barrier (N=1), experimenter error (N=2), technical difficulties (N=2) or parent interference (N=1). An additional 33 children were recruited but excluded as they chose not to complete the study. After these exclusions, as well as four IAT exclusions detailed in the results section, our final sample consisted of a total of 359 participants, 257 who identified as Caucasian and 102 who identified as Asian.

Our testing area at the science center was set up as an exhibit, and parents were able to come into our lab space if they were interested in having their child participate in a study. Research assistants also recruited by walking around the science center floor and telling parents about our research. Participants were recruited from a population with a median income of $75,000. Approximately 85% of parents in this population have received a high school education or higher, and 57% have received a university education or higher. We aimed to collect data from 120 participants in each condition, distributed across the age range. However, due to constraints of our testing location, we ran more children than intended as it is policy at the science center that any child who wishes to participate be allowed to (provided parents provide consent). Children who were outside of our a priori range of 5-12 years were excluded from the sample, as were children who were not members of one of the majority (and culturally higher status) groups in Vancouver (either White or Asian, Statistics Canada, 2006). Parents or a legal guardian of each participant were asked to report their child's ethnic identification and other demographic information after providing informed consent for their child's participation.

Measures

Vignettes. Each participant was read four vignettes. For each vignette in the Black and White conditions, children were introduced to a unique exemplar from that racial group and were told several positive facts about that individual (e.g. "This is James. James lives in North Vancouver where he is a fire fighter. James is an excellent fire fighter and is working hard to become fire chief.") A photograph of a unique individual in early to middle adulthood, depending on the story, accompanied each vignette. For two of the vignettes, participants learned about a male exemplar and for the other two vignettes participants learned about a female exemplar. While the pictures of the individuals differed across the Black and White conditions, the descriptions were the same. Each of the four Black and four White target photographs were matched for age and attractiveness. In the main control condition, participants heard vignettes about four different types of flowers (tulips, daffodils, sunflowers, roses) one at a time. These vignettes included facts about the different flowers, as well as positive uses of the flower. These control vignettes also included a photograph of the flower and were designed to match the other two conditions in terms of positive affective valence and length (4-5 sentences; see Supplementary Materials for full texts). The order of the vignettes was randomly presented.

Child Implicit Association Test. Children's implicit racial bias was measured using a child-friendly Implicit Association Test (Child IAT; Baron & Banaji, 2006). The Child IAT measures the strength of association between a target category and an attribute. The two target categories in this test were the racial groups Black and White, and the two attributes were "good" and "bad." The stimuli used to represent these four categories were the same as reported in Baron & Banaji (2006). The categories Black and White were each represented with four pictures of children from each race matched in age and attractiveness. The "good" and "bad" attributes were presented acoustically. Specifically, children heard four words that could be categorized as “good” (happy, fun, good, nice) or “bad” (yucky, sad, mad, mean). These items were recorded by an adult female who spoke each word in an affectively congruent manner. On the left and right hand side of the screen a yellow (L) and blue (R) reminder bar was present throughout the test. A smiling and a frowning face served as category reminders for the attributes good and bad. An image of a White child and an image of a Black child served as category reminders for the two target groups. In front of the monitor on the table were two JellyBean™ response buttons color matched with the side of the screen they were placed in front of (yellow on the left, blue on the right). Participants were instructed that any time they saw an image in the middle of the screen or heard a word to determine with which category it belonged (White or Black; Good or Bad) and to press the corresponding button (yellow or blue) associated with that category.

Participants first began by categorizing faces as either Black or White. In each of these practice trials, a face appeared one at a time in the middle of the screen and participants were instructed to identify as quickly and accurately as possible whether the face was Black or White. There were a total of 12 such practice trials (6 Black faces and 6 White faces). Next, participants practiced classifying words into the categories *good* and *bad.* A smiling and frowning face were positioned on each reminder bar and for 20 trials participants heard 10 good words and 10 bad words and were similarly asked to categorize them as quickly and accurately as possible.

Following these two practice blocks, children completed a critical test block of trials used to compute their association strength. In these trials (N = 30), children used the same buttons to classify an attribute (good/bad) and a target category (Black/White) (e.g., Black+good shared one button and White+bad shared another). Children then completed another practice block (N = 20), where they were again asked to classify pictures only, but the sides of the target categories was reversed. In the final test block (N = 30 trials), children again used the same buttons to classify attributes and target categories, but this time, the pairing of the attributes and target categories were switched (e.g., White+good, Black+bad). The side for target categories and attributes were counterbalanced across conditions. This measure is designed to measure the strength of the association between paired stimuli (e.g., Black+good, White+bad, versus White+good, Black+bad) by recording children's reaction times during the pairings of stimuli. Specifically, we measured the relative positivity and negativity that participants associated with White and Black individuals. For a broader discussion of differing interpretations of response latency tests and of the IAT in particular please see Greenwald, Nosek, and Sriram (2006).

Procedure

Participants were tested individually. The experimenter read all instructions aloud to each participant and Inquisit™ version 4.0 was used to present the study. Participants were randomly assigned to one of three conditions where they heard four positive vignettes. Depending on the condition, these vignettes were about Black individuals, White individuals, or flowers. Children who heard about Black individuals were in our intervention condition since positive exemplars from this group represent a counter-stereotypical portrayal given the broader cultural messages about this group. The flower condition was our main control condition where we presented participants with the same number of vignettes about different flowers designed to induce a positive mood similar to being exposed to positive statements about a person. Because our participants were expected to have a baseline level of implicit pro-White (versus Black) bias based on prior research with North American samples of these ethnic groups (Baron & Banaji, 2006; Dunham et al., 2006), the condition where children were exposed to positive White exemplars served as an additional control condition as this information is congruent with broader cultural stereotypes. Following the presentation of the vignettes, participants completed the Child IAT (Baron & Banaji, 2006) to measure their implicit attitudes toward the racial categories White and Black.

Researcher Statement

We have reported all measures, conditions, and data exclusions.

Results

Data preparation. Prior to conducting our analyses, an IAT score was calculated for each participant using the guidelines outlined by Greenwald et al. (2003) and Baron & Banaji (2006). This score, called a *D* score, is a variation of Cohen's d, and represents the magnitude of a participant's implicit preference for one group relative to a comparison group. Our data were coded such that a positive score indicated an implicit preference for White individuals over Black individuals, and a negative score indicated an implicit preference for Black individuals over White individuals. Consistent with previous research, children with more than 25% of their response latencies under 300ms were excluded from the analyses (Baron & Banaji, 2006). Four children were excluded for this reason.

As this is the first study to examine whether there are developmental differences in the malleability of implicit racial bias following an intervention, we performed a median split (Md = 8.39 years), dividing our sample into two age groups (a younger group, M_{age} = 7.36, N = 180, and an older age group, M_{age}= 9.94, N = 179) that are comparable to age groupings that have been used previously in research on children's intergroup bias (Baron & Banaji, 2006; Dunham et al., 2006; Raabe & Beelmann, 2011). Subsequent analyses indicated that results were comparable, even when age groups were divided based on years (ages 5-8 and ages 9-12; see Supplementary Materials).

Implicit Racial Bias. To examine whether the magnitude of children's implicit racial bias was affected by exposure to positive Black exemplars, we conducted a 2 (Age group: Younger or Older) x 3 (Condition: Black, Flowers, White) x 2 (Ethnic group: Caucasian or Asian) ANOVA with the IAT *D* Score entered as the dependent variable. There was no main effect of Age group, $F_{1, 347}= 0.56$, $p = .45$, $\eta_p^2 = .002$, Condition, $F_{2, 347} = 0.82$, $p = .44$, $\eta_p^2 = .005$, or Ethnic group, $F_{1, 347} = 0.004$, $p = .95$, $\eta_p^2 < .001$, on children's IAT score. However, there was a significant interaction between Age group and Condition, $F_{2, 347} = 5.92$, $p = .003$, $\eta_p^2 = .03$ (see Figure 1). No other interactions were significant, *F*s < 2.30, *p*s > .10. Because there was no main effect of or interactions with Ethnic group (Caucasian or Asian), we collapsed across these groups in subsequent analyses.

In order to examine this interaction, we conducted follow-up ANOVAs for younger and older children separately. For younger children, there was no effect of Condition, $F_{2, 177} = 1.26$, $p = .29$, $\eta_p^2 = .01$, and post-hoc analyses confirmed that there were no significant differences between any of the conditions (*p*s > .15). As a group, younger children showed an implicit pro-White bias ($D = 0.05$, $SD = 0.18$) that was significantly different from chance, $t_{179} = 3.81$, $p < .001$, Cohen's $d = 0.57$, $CI_{95} = [0.02, 0.08]$. For older children, however, there was a main effect of Condition, $F_{2, 176} = 6.30$, $p = .002$, $\eta_p^2 = .07$. Post-hoc analyses revealed that older children in the Black exemplar condition ($D = 0.01$, $SD = 0.15$) showed significantly less bias than older children in the Flower ($D = 0.09$, $SD = .18$; $p = .005$) or White ($D = 0.11$, $SD = .17$; $p = .001$) control conditions; bias in these control conditions did not differ ($p = .90$). Moreover, consistent with the hypothesized effectiveness of the intervention, after being exposed to positive Black exemplars, older children's mean level of bias was not significantly different from chance, indicating that they did not show implicit pro-White bias following this intervention, $t_{61} = 0.43$, *p*

= .67, CI_{95} = [-0.03, 0.05], Cohen's *d* = 0.11. By contrast, consistent with findings from the broader literature on children's implicit racial bias, older children assigned to the Flower, t_{58} = 4.05, $p < .001$, CI_{95} = [0.05, 0.14], Cohen's *d* = 1.06, and White, t_{57} = 4.80, $p < .001$, CI_{95} = [0.06, 0.15], Cohen's *d* = 1.26, control conditions showed an implicit preference for White relative to Black. Simple effects analyses also indicated that there was a significant difference between the younger (*D* = 0.07, *SD* = 0.20) and older (*D* = 0.01, *SD* = 0.15) age groups in the Black condition (*p* = .03). Older children showed significantly less implicit bias than younger children after being exposed to Black exemplars, suggesting that this intervention was more effective for children over the age of eight.

For comparison, we calculated the effect size of our intervention for older children by comparing the mean of our intervention condition (Black) with the collapsed mean of the two control conditions (Flower and White; *D* = .10, *SD* = .17). For younger children, our manipulation had a very small effect size, t_{178} = -.95, *p* = .34, CI_{diff} = [-0.09, 0.03], Cohen's *d* = 0.15. For older children, our manipulation had a moderate effect size, t_{177} = 3.53, *p* = .001, CI_{diff} = [0.04, 0.14], Cohen's *d* = 0.56.

Discussion

The results of this study suggest that exposing White and Asian children to counter-stereotypical Black exemplars can successfully reduce implicit racial bias among older (M_{age}=~10-years), but not younger (M_{age} =~7-years), children. Older participants showed an absence of an implicit preference for White relative to Black targets following a brief intervention in which stories about four positive Black exemplars were read. Thus, whereas previous research from the United States, the United Kingdom, South Africa and Canada has found developmental invariance in the strength of implicit racial bias as measured by the Child

IAT among children age 5 and older (Baron & Banaji, 2006; Dunham et al., 2006; Newheiser & Olson, 2012; Rutland et al., 2005; Williams & Steele, 2015), our study suggests that important developmental differences exist with respect to the capacity to reduce implicit attitudes.

Previous research suggests that adults' implicit racial biases can be similarly reduced following brief interventions that introduce positive Black exemplars (Cohen's $d = .38$; Lai et al., 2014). In particular, studies have shown that exposing adults to famous admired Black exemplars and disliked White exemplars reduces implicit pro-White bias (Dasgupta & Greenwald, 2001; Joy-Gaba & Nosek, 2010; Lai et al., 2014). The efficacy of this intervention among adults is believed to stem from a shift in the social context which places emphasis on individuals who contrast with usual stereotypes (Lai, Hoffman, & Nosek, 2013). As such, it has been suggested that this shift primes subtypes (e.g., "wealthy Black"; "helpful Black") rather than leading adults to revise their prior beliefs about the larger groups (i.e., Blacks). While it is possible that our intervention operates through a similar mechanism for children, it is also possible that older children are instead forming novel associations about this racial outgroup. Future research will need to examine whether children are similarly activating subtypes of their representations of this racial group or whether they are successfully revising their beliefs about the broader group. While many studies of attitude change among adults and children speak generally about effective strategies for reducing bias, few studies have identified the conditions under which such change occurs via mechanisms of global attitude change versus the creation of positive sub-types. Future work will need to focus specifically on adjudicating among these possible mechanisms.

Additional research aimed at further identifying possible developmental differences in the efficacy of interventions designed to reduce implicit bias can also shed light on the independent and competing influences of increased cognitive flexibility and longer exposure to cultural messages of bias on the malleability of implicit racial attitudes. Although previous research has found that exposure to positive Black exemplars can similarly decrease the implicit racial bias of adults, we did not include a sample of adults in our current study, and thus we are unable to determine whether implicit racial attitudes might actually be *more* malleable among older children relative to adults. An interesting possibility to consider is whether there is a curvilinear relationship between age and the magnitude of attitude change following similar interventions, with older children representing an age group that has comparatively less reinforcement of biases, but enough cognitive flexibility to overcome the initial bias that has formed. This would suggest that late childhood might be a particularly effective time for interventions designed to reduce children's implicit racial biases.

Interestingly, our intervention did not successfully reduce bias in younger children, a finding that highlights possible developmental differences in the malleability of implicit associations. As discussed previously, research provides evidence that older children have more cognitive flexibility, which might allow them to more easily alter their existing beliefs about social groups (Aboud, 2005; Aboud & Amato, 2001; Bigler & Liben, 2006). An alternative possibility to consider is that our intervention was more effective with older children because of the particular strategies involved. Specifically, for our intervention to be effective, children needed to categorize the individuals in our vignettes as members of a particular racial category, and generalize that affective association to novel members of the category. Research suggests that young children may not spontaneously categorize others by race to the same extent as older children. Even though these children can sort faces by race, they may be less likely than older children to spontaneously attend to race when reasoning about others (Pauker, Williams, & Steele, in press). Moreover, research suggests that younger children often privilege other categories (e.g., gender, language) over race on a variety of reasoning tasks (Degner & Wentura, 2010; Kinzler, Shutts, DeJesus, & Spelke, 2009; Shutts, Banaji, & Spelke, 2010). It will therefore be important to examine other intervention strategies with younger children in order to identify why young children's implicit racial attitudes might be more resistant to this type of intervention and to ensure that their lack of implicit attitude change in the present study was not due to idiosyncratic aspects our manipulation.

Additional research would also help to identify whether developmental differences exist in the efficacy of various intervention strategies in creating long-term attitude change. Although a number of studies with adults have investigated short-term attitude change, the duration of these interventions has not yet been fully assessed (Lai et al., 2014). Examining longer-term effects of this and other intervention strategies can help to reveal whether children's implicit attitudes have genuinely shifted or whether the particular intervention strategy employed (e.g., exposure to counter-stereotypical exemplars) is effective only in the short-term. While our findings present a promising method of implicit racial bias reduction in children, an important consideration for future research is that developmental differences must be considered when designing and employing interventions to reduce implicit bias. The current study, coupled with future work on developmental differences in reducing implicit racial bias, can help to determine whether there is an optimal period in development for targeted interventions to decrease bias, and importantly, what types of interventions are most effective at each age.

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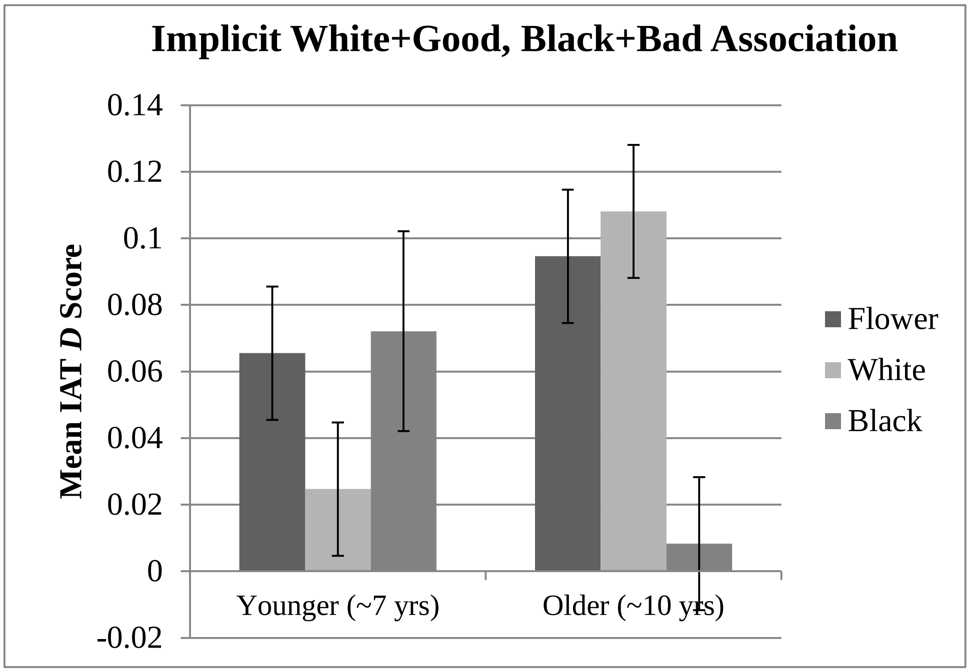
Figure Captions

Figure 1. Mean IAT scores by Age Group and Condition. Standard errors are represented by the error bars.



Supplementary Materials

Results using age categories (5-8 yrs & 9-12 yrs)

In addition to analyzing our results as a median split, we also analyzed the results using age categories as cutoffs (ages 5-8 and ages 9-12). Results were comparable to those obtained when dividing the sample using a median split. We conducted a 2 (Age group: Younger or Older) x 3 (Condition: Black, Flowers, White) x 2 (Ethnic group: Caucasian or Asian) ANOVA with the IAT *D* Score entered as the dependent variable. There was no main effect of Age group, $F_{1, 347} = 1.20$, $p = .27$, $\eta_p^2 = .003$, Condition, $F_{2, 347} = 1.67$, $p = .19$, $\eta_p^2 = .01$, or Ethnic group, $F_{1, 347} = 0.36$, $p = .85$, $\eta_p^2 < .001$, on children's IAT score. However, there was a significant interaction between Age group and Condition, $F_{2, 347} = 5.06$, $p = .007$, $\eta_p^2 = .03$. No other interactions were significant, Fs < 0.52, ps > .60.

In order to examine this interaction, we conducted follow-up ANOVAs for younger and older children separately. For younger children, there was no effect of condition, $F_{2, 217} = 1.26$, $p = .29$, $\eta_p^2 = .01$. As a group, younger children showed an implicit pro-White bias ($D = 0.05$, $SD = 0.18$) that was significantly different from chance, $t_{222} = 4.19$, $p < .001$, $CI_{95} = [0.03, 0.07]$, Cohen's $d = 0.56$.

For older children, however, there was a main effect of condition, $F_{2, 130} = 5.02$, $p = .008$, $\eta_p^2 = .07$. Post-hoc analyses revealed that older children in the Black exemplar condition ($D = 0.00$, $SD = 0.16$) showed significantly less bias than older children in the Flower ($D = 0.12$, $SD = .19$; $p < .001$) or White ($D = 0.11$, $SD = .15$; $p < .001$) control conditions, and bias in these control conditions did not differ ($p = .94$). Older children's mean level of bias was not significantly different from chance, indicating that they did not show implicit pro-White bias following this intervention, $t_{43} = 0.01$, $p = .99$, $CI_{95} = [-0.05, 0.05]$ Cohen's $d = 0.003$. By contrast, children assigned to Flower, t_{42} = 3.87, $p < .001$, CI_{95} = [0.05, 0.17], Cohen’s d = 1.19 and White, t_{48} = 5.33, $p < .001$, CI_{95}= [0.07, 0.16], Cohen’s d = 1.54, control condition did exhibit an implicit preference for White relative to Black.

Simple effects analyses also indicated that there was a marginally significant difference between the younger (*D* = 0.08, *SD* = 0.19) and older (*D* = 0.00, *SD* = 0.16) age groups in the Black condition (p = .06). Older children showed significantly less implicit bias than younger children after being exposed to Black exemplars, suggesting that this intervention was more effective for children aged nine to twelve.