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Initial Evidence that Parent-Child Conversations About Race Reduce Racial Biases Among White U.S. Children

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Abstract

Although parent-child conversations about race are recommended as a way to curb children's racial biases, no prior work has directly tested the impact of such conversations on children's racial attitudes. In fact, most White American parents avoid talking about racism with their children. We designed a method to facilitate conversations about subtle and blatant forms of racial bias between White parents and their 8-12-year-olds. We explored the effect of conversation on children's implicit anti-Black attitudes, whether parents' nonverbal discomfort and physiological arousal moderated the impact of racial socialization on children's attitudes, and whether the type of racism that was discussed mattered. White children's implicit anti-Black attitudes significantly decreased, pre-to-post conversation. Parental tenseness, anxiety, and arousal were not linked to increases (but in some contexts decreases) in children's implicit anti-Black attitudes. Our findings suggest that, even when parents experience discomfort, facilitating parent-child racial socialization in White families may be an effective tool to reduce implicit anti-Black attitudes.

Keywords: Racial Socialization, Implicit Bias, Nonverbal Behavior

Parent-Child Discussions about Race and Racial Incidents

Significance

Most White American parents believe that discussing race with their children would be beneficial, yet avoid these discussions, in part, because they fear that increasing their children's awareness of race could increase their racial bias. Here we find evidence that, when White parents have a semi-structured conversation about subtle and blatant racial bias with their 8-12-year-old children, it can reduce their children's and their own implicit biases. Parents did not increase their children's implicit anti-Black attitudes when they exhibited tenseness or physiological activation during the discussion, regardless of the type of racial bias that was discussed. These results suggest the discomfort that White adults often experience when openly discussing racial issues need not be a barrier to progress.

Although many White American parents believe that discussing race and racism with their children would be beneficial,^[12] the majority (up to 70%) of White parents avoid talking about race and racism with their children.^[4, 5, 6] When White parents do have these conversations, they often take a colorblind (e.g., failing to mention race or racism, explicitly) instead of color conscious (e.g., explicit conversations about race and racism), approach.^[35] White parents' reticence to have these discussions--in direct contradiction to their belief in their value--may be due, in part, to a fear that increasing their children's awareness and acknowledgement of race could unintentionally lead to increased racial bias in their child.^[12] Despite the fact that having conversations about race has been recommended as a way to curb children's racial biases, the evidence on the positive benefits of parental racial socialization in White families is limited.^[30] Two studies have experimentally tested the impact of racial socialization on White children, showing that when adults (parents or teachers) engage in color

conscious conversations with children, these children go on to place greater value on racial fairness and display more positive attitudes toward Black individuals.^[13, 31] However, in the single study conducted with parents, racial socialization was self-reported, and few parents (10%) indicated that they engaged in in-depth conversations about race with their children.^[12, 31]

With the current work, we designed a semi-structured conversation protocol to facilitate color conscious parent-child conversations about subtle and blatant forms of racism in a laboratory setting. This method was designed with audiovisual prompts and discussion questions to address parents' potential concerns that they would not have the language to navigate these conversations with their children.^[30] We then examined the impact of these conversations on 8-12-year old children's implicit racial attitudes. Specifically, we investigated whether, as theorized--but not directly tested--in the literature, engaging in this semi-structured conversation about race and racism with their parents would reduce children's anti-Black/pro-White (referred to as "anti-Black," hereafter)¹ implicit attitudes.^[30] Additionally, given parents' potential fears about whether these conversations might unintentionally increase their children's anti-Black attitudes by signaling discomfort with the topic of race, we assessed parents' nonverbal discomfort and physiological arousal during the conversation.^[30] Specifically, we measured (1) parents' nonverbal tenseness and anxiety, and autonomic nervous system responses indicative of physiological arousal and regulation during the racial socialization procedure, and (2) explored whether they were associated with change in children's implicit racial biases. Finally, we explored whether the impact of parents' nonverbal signals on their children's attitudes varied as a function of the type of racism they were discussing--subtle or blatant. Previous literature

¹ The Implicit Association Test measured positive and negative associations with Black relative to White people, which means that anti-Black attitudes cannot be separated from pro-White attitudes. For simplicity, we use the phrase "anti-Black implicit attitudes," rather than "anti-Black/pro-White."

suggests that White individuals are less comfortable with confronting subtle, relative to blatant, forms of racism, and are thus less likely to label subtle behaviors as a form of racism. ^[24] This is important, given that subtle forms of racism are more insidious and--because of their ambiguous nature--can have a particularly negative impact on Black individuals' psychological well-being. ^[51] In contemporary American society, racism is most often perpetuated through subtle forms of bias (e.g., a White person feeling uncomfortable around a Black person) and those with greater self-awareness of their prejudiced tendencies tend to be more likely to acknowledge that subtle forms of bias constitute racism. ^[52] Thus, it is possible that parents' willingness to confront subtle, relative to blatant, forms of racial prejudice may be sending different messages to their children, which may in turn differentially shape changes in their child's racial attitudes. We explored the extent to which the impact of parents' nonverbal signals on children's implicit attitudes may be moderated by the type of racism that they are discussing with their children--subtle or blatant.

We focused specifically on the influence of the conversation protocol on children's implicit biases because, by middle childhood, White children become less likely to express their explicit anti-Black attitudes and more susceptible to social desirability concerns. Thus, measures of implicit bias offered an alternative measure of racial biases that was fairly insensitive to social desirability. ^[36,34]

This research substantially advances the literature on parental racial socialization and racial attitude development in four distinct ways, which we outline below. First, this work is the first to report evidence of a procedure that effectively facilitates racial socialization conversations between White parents and their children. Second, this study is the first to empirically test the relation between White parents' racial socialization conversations and their

children's implicit racial attitudes. Specifically, we are the first to test the effect these conversations have on children's implicit racial attitudes.

Third, we explore whether nonverbal signals indicative of parental discomfort during the racial socialization conversation alter the impact of racial socialization on children's implicit anti-Black attitudes. Parent nonverbal behavior is an integral but understudied component of parent-child interactions.^[14] Given the anxiety and social desirability issues that may arise when White parents discuss race and racism with their children, nonverbal behavior may be critical to understanding the unspoken messages parents are communicating to children during race-related discussions via body language. We focused on a set of nonverbal cues (tenseness, vocal anxiety) used in prior studies of nonverbal behavior displayed by White adults during conversations about race.^[17] Early work on the messages conveyed by nonverbal signals indicates that tenseness, in particular, can moderate the effects of attitudinal cues, such that variations in tenseness may alter the effects of other signals (e.g., explicitly stated attitudes).^[18] Thus, if a child perceives their parent to be tense or anxious when discussing race, it may impact how their message is received. We hypothesized that, consistent with previous theorizing, parents conversing with their child about race would lead to a reduction in children's implicit racial bias. Additionally, we explored whether—consistent with White parents' potential concerns ^[54]—nonverbal signs of discomfort moderated the effect of these conversations on children's attitudes.

Fourth, we investigate a novel pathway by which White parents' responses may influence children's intergroup attitudes: neurophysiological responses. There is mounting evidence that one interaction partner's autonomic nervous system (ANS) reactivity is associated with changes in the other partner's thoughts and feelings.^[37, 38] Thus, neurophysiological responses may be a heretofore unexamined yet critically important component of the messages children receive from

their parents regarding race. We also examined relations between changes in parent ANS responses during the task and children's anti-Black attitudes. ANS reactivity provides a window into a person's affective experience beyond what can be obtained via self-report or observation. Because ANS responses can be measured continuously and non-invasively while people engage in conversations, they can provide "online" insight into affective states with minimal disruption to the natural social-emotional dynamics of the situation.^[39] We focused primarily on parasympathetic nervous system (PNS) reactivity, which is reliably measured via respiratory sinus arrhythmia (RSA; high-frequency heart rate variability) or the change in heart period between inspiration and expiration of breath. RSA is a putative biomarker of emotion regulation^[40] as it reflects the activity of a system of brain structures that control how people attend and emotionally respond to challenges in their environment.^[49] When confronted with the potentially challenging situation of a conversation about race, a decrease in RSA (i.e., vagal withdrawal) indicates that the brain and body are focusing attention on the situation and regulating emotional responses to the situation. In contrast, an increase in RSA (i.e., vagal augmentation) indicates a neurophysiological state of calm in response to the situation. In addition, we examined heart rate (HR) reactivity as a measure of global physiological arousal during the discussion task, as HR changes are driven by both sympathetic and parasympathetic activation. Both measures of ANS reactivity shed light on what is happening "under the skin" in parents during a racial discussion. Additionally, we explored whether children's responses to parents' cues (i.e., nonverbal behavior, RSA and HR reactivity) varied as a function of the types of racism that they were discussing: subtle or blatant.

For the current study, we developed a novel method of facilitating color conscious racial discussions in White families, which provided parents scaffolding to talk about race with their

children. Specifically, we used emotionally evocative stimulus videos to facilitate discussions in parent-child dyads, as well as a series of prompts that were provided after parents were first given an opportunity to acclimate to the task of racial socialization by freely/openly discussing the first several videos. This allowed parents and children to ease into the racial socialization task, first acclimating to talking about race in general, before they were provided structured prompts designed to facilitate explicitly color conscious conversations.

Given our goal to facilitate a color conscious style of racial socialization in White families, we used prompts that have been (a) linked to color conscious methods of discussing race, and (b) theorized to increase White children's understanding of racism and encourage positive attitudes toward outgroup members.^[30] Specifically, the racial socialization and intergroup relations literature indicates that the following may be helpful to socialize children about racism (1) explicitly mentioning race,^[36] (2) discussing who was responsible when racist acts take place,^[41, 42] (3) encouraging the child to take the perspective of and empathize with those who experience racism,^[43, 35, 42] and (4) explicitly labeling prejudice when they see it.^[44, 45, 46] Thus, during their prompted discussions, families first observed scenarios in which a White child was explicitly described as being prejudiced toward a Black children (e.g., "Tiffany thinks that all Black kids are dumb..."; which set the norm of using racial labels in the context of the racist incident), before being asked to consider (a) whether there was something wrong with the White child's behavior, (b) how they think the Black child felt and how they would have felt if they were that child, (c) why they think that the White child thought or behaved the way that they did, and (d) whether they thought the White child's behavior was prejudiced (after prejudice was defined as specifically judging the Black child negatively, because of their race). We

anticipated that the use of these prompts would help facilitate color conscious socialization among parents.

Results

In line with our first aim, we checked to see if our semi-structured approach did effectively facilitate color conscious racial socialization conversations among parents. Findings indicated that nearly all parents explicitly referenced race or prejudice in their discussions with their children. Approximately 29% of parents used the word "race," in general, but an overwhelming majority used specific racial labels (89% "Black," 73% "White"). Approximately 94% of parents encouraged their children to see particular attitudes or behavior as prejudiced in reference to the scenarios, indicating that parents were, indeed, engaging in a more color conscious form of discussion than has been observed in prior work ^[35].

Having established that our procedure effectively facilitated racial socialization conversations between White parents and their children, we moved on to our second aim, examining the effect of these conversations on children's implicit anti-Black attitudes. To do this, we conducted paired samples t-tests comparing children's implicit racial attitudes before and after the racial socialization procedure. As predicted, results indicated that children's implicit anti-Black attitudes significantly decreased from before racial socialization ($M = 0.40$, $SD = 0.36$) to after racial socialization ($M = 0.16$, $SD = 0.30$), $t(79) = 5.34$, $p < .001$, $d = .60$ (see Figure 1). We also found that parents' implicit anti-Black attitudes significantly decreased from before racial socialization ($M = 0.51$, $SD = .41$) to after racial socialization ($M = 0.38$, $SD = 0.49$), $t(82) = 2.70$, $p = .008$, $d = .35$. Interestingly, we found that the racial socialization procedure also seems to have synchronized the implicit biases of parents and their children.

Before the racial socialization procedure, the implicit racial attitudes of children were not significantly correlated with those of their parents, $r(80) = .02, p = .861$. However, after the racial socialization procedure, children's implicit anti-Black attitudes were significantly correlated with the implicit anti-Black attitudes of their parents, $r(83) = .30, p = .005$, indicating that parents' and children's implicit attitudes became more synchronized after the race discussion.

Figure 1

Mean estimates of anti-Black attitudes (D-scores) pre- and post-test for children and parents.

Note. Error bars represent standard errors.

Effects of Parent Nonverbal Anxiety and Tenseness

Our third aim was to explore whether nonverbal signals indicative of parental discomfort during the racial socialization conversation might alter the impact of racial socialization on children's implicit anti-Black attitudes. Because children likely interpret their parents' nonverbal behaviors in one context relative to their nonverbal behaviors in other contexts, we calculated

difference scores² to represent the difference between parental responses to blatant and subtle biases. To do this we subtracted grand mean-centered blatant scores from grand mean-centered subtle scores, such that positive scores indicated relatively more tenseness (or anxiety) when discussing subtle incidents of bias whereas negative scores indicated relatively more tenseness when discussing blatant incidents of bias. To examine whether parents' nonverbal signals predicted children's implicit anti-Black attitudes we conducted a repeated-measures general linear model with tenseness and anxiety difference scores as the sole predictors.

Nonverbal Tenseness. Results indicated that differences in parental tenseness when watching and discussing subtle relative to blatant incidents of bias predicted changes in children's implicit racial attitudes, $F(1, 76.3) = 9.43, p = .003, R^2 = .11$ (see Figure 2). To follow-up on this significant effect we tested for pre-post differences in child implicit anti-Black attitudes when parents were more tense in response to subtle incidents (difference scores 1 *SD* above the mean) and when parents were more tense in response to blatant incidents (difference scores 1 *SD* below the mean). Parents whose difference scores indicated more tenseness while discussing subtle incidents had children whose implicit racial biases significantly decreased from pre-test ($M = 0.43, SE = 0.06$) to post-test ($M = 0.06, SE = 0.04$), $t(76.7) = 6.12, p < .001$, 95% CI [0.25, 0.50]. In contrast, parents whose difference scores indicated more tenseness while discussing blatant incidents had children whose implicit racial biases only marginally decreased from pre-test ($M = 0.37, SE = 0.06$) to post-test ($M = 0.26, SE = 0.04$), $t(76.6) = 1.77, p = .081$, 95% CI [-0.01, 0.23].

² Including independent measures of nonverbal behavior when discussing blatant and subtle incidents in the same model also presented multicollinearity concerns.

Figure 2

Change in children's implicit anti-Black attitudes (D-scores) from pre- to post-test as a function of relative parental tenseness (Panel A), parental RSA reactivity (Panel B), and parental HR reactivity (Panel C) when discussing subtle versus blatant instances of racial bias.

Note. Higher values indicate a larger reduction in implicit anti-Black attitudes. Point estimates represent one *SD* above and below zero (no difference between responses to blatant and subtle) and error bars represent standard errors.

Nonverbal Anxiety. Parents' level of vocal anxiety when discussing subtle relative to blatant incidents of bias was not predictive of changes in children's implicit anti-Black attitudes, $F(1, 80.9) = 0.10, p = .758, R^2 = .00$. Collectively, our findings provide evidence that, inconsistent with White parents' fears, nonverbal cues signaling discomfort during parent-child race discussions were not associated with increased anti-Black attitudes in their children.

Effects of Parent RSA and HR Reactivity

To address our final aim, we explored whether parents' neurophysiological responses when discussing incidents of racial bias moderated changes in children's implicit anti-Black attitudes. As with nonverbal behaviors, we calculated difference scores to represent the difference between parental physiological responses to blatant and subtle biases. To do this we subtracted grand mean-centered blatant scores from grand mean-centered subtle scores, such that positive scores indicated relatively more respiratory sinus arrhythmia reactivity (RSAR) or heart rate reactivity (HRR) when discussing subtle biases (whereas negative scores indicated relatively more RSAR and HRR when discussing blatant biases). To examine whether parents' relative physiological responses predicted children's implicit anti-Black attitudes we conducted a repeated-measures general linear model with RSAR and HRR difference scores as the sole predictors.

Correlations between measures within each condition are provided in Table 1.

Table 1

Pearson's r correlation coefficients for parent's relative (subtle minus blatant) nonverbal responses and physiological reactivity during discussions of bias, and descriptive statistics.

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Nonverbal tenseness	0.00	0.22				
2. Vocal anxiety	0.00	0.44	.14			
3. RSA reactivity	0.00	0.35	-.10	.04		

4. HR reactivity	0.00	1.80	-.03	.10	-.37***
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* $p < .10$, ** $p < .05$, *** $p < .001$

Respiratory Sinus Arrhythmia Reactivity (RSAR). Results indicated that differences in parental RSAR when watching and discussing subtle relative to blatant incidents of bias predicted changes in children's implicit racial attitudes, $F(1, 76.3) = 7.23, p = .009, R^2 = .09$ (see Figure 2). To follow-up on this significant effect, we tested for pre-post differences in child implicit bias when RSAR was greater in response to the subtle incidents (difference scores 1 *SD* above the mean) and when RSAR was greater in response to blatant incidents (difference scores 1 *SD* below the mean). Parents whose difference scores indicated more RSAR while discussing blatant incidents had children whose implicit racial biases significantly decreased from pre-test ($M = 0.46, SE = 0.06$) and post-test ($M = 0.07, SE = 0.05$), $t(76.5) = 5.57, p < .001, 95\% CI [0.25, 0.53]$. In contrast, parents whose difference scores indicated more RSAR in response to subtle incidents had children whose implicit racial biases did not significantly decrease from pre-test ($M = 0.34, SE = 0.06$) and post-test ($M = 0.25, SE = 0.05$), $t(76.2) = 1.41, p = .163, 95\% CI [-0.04, 0.24]$. In other words, children whose implicit anti-Black biases significantly decreased had parents who exhibited physiological responses indicative of focused attention and emotion regulation more so during discussions of subtly biased (vs. blatantly biased) incidents.

Heart Rate Reactivity (HRR). Results indicated that differences in parental HRR when watching and discussing subtle relative to blatant incidents of bias predicted changes in

children's implicit racial attitudes, $F(1, 76.1) = 3.95, p = .050, R^2 = .05$ (see Figure 2). To follow-up on this significant effect, we tested for pre-post differences in child implicit bias when HRR was greater in response to the subtle incidents (difference scores 1 *SD* above the mean) and when HRR was greater in response to blatant incidents (difference scores 1 *SD* below the mean). Parents whose difference scores indicated more HRR during blatant had children whose implicit racial biases significantly decreased from pre-test ($M = 0.46, SE = 0.06$) to post-test ($M = 0.12, SE = 0.05$), $t(76.6) = 5.16, p < .001, 95\% CI [0.21, 0.47]$. Parents whose difference scores indicated more HRR during subtle had children whose implicit racial biases significantly decreased (albeit less dramatically) from pre-test ($M = 0.35, SE = 0.06$) to post-test ($M = 0.20, SE = 0.05$), $t(76) = 2.31, p = .024, 95\% CI [0.02, 0.28]$. In other words, parents who exhibited greater increases in HRR, generally indicative of a physiologically aroused state, during discussions of blatantly biased incidents (compared to subtly biased ones) had children who showed a particularly large decrease in anti-Black attitudes.

Discussion

Although many have speculated about the potentially positive consequences of White parents engaging in racial socialization conversations with their children, ^[30] the current work is the first to provide evidence that these conversations can, indeed, reduce children's implicit anti-Black attitudes. Additionally, these conversations were also associated with a decrease in parents' implicit anti-Black attitudes. Addressing parental concerns that their discomfort with these conversations could be detrimental, we found that when parents appeared tense, anxious, or physiologically aroused, it did not increase their children's implicit anti-Black attitudes. Contrary to parents' fears that discussions about race could increase their children's racial biases ^[54], we

found that when White parents displayed increased nonverbal tenseness and physiological arousal, their children's implicit anti-Black attitudes did not increase. These results suggest that the discomfort that White adults often experience when openly discussing racial issues need not be a barrier to engaging in explicit racial socialization, and that guided color conscious family discussions like the one utilized here show promise for reducing racial biases in multiple generations at once.

Beyond our primary question of the impact of parental racial socialization conversations, we also explored how nonverbal signals of discomfort in response to different types of racial incidents (subtle vs. blatant racism) might impact children's implicit anti-Black attitudes. In our models, we examined parental tenseness when discussing blatant relative to subtle racial biases. We found that the implicit anti-Black attitudes of children whose parents showed relatively high nonverbal tenseness in response to subtle instances of bias significantly decreased from pre-test to post-test, whereas children whose parents showed relatively high nonverbal tenseness in response to blatant instances of bias showed no change in their pre-to-post implicit anti-Black attitudes. Thus, the findings for parental tenseness indicate that only when parents showed *more* tenseness when discussing subtle instances of bias (relative to blatant) did children show significant reductions in anti-Black attitudes. Tenseness when discussing subtle racial bias may have signaled to children that something was wrong (consistent with social referencing²⁸), helping them identify that bias had occurred and drawing their attention to the variety of forms that racial bias may take (e.g., microaggressions).

We found a complementary pattern of results with regards to parents' RSAR. Parents who showed evidence (via their RSA responses) of increased regulation of their emotional reactions and close attention to the conversation in the subtle condition (relative to the blatant

condition) had children whose implicit anti-Black attitudes decreased from pre- to post-test. The children of parents who did not show this pattern of RSA reactivity did not significantly change their attitudes. This suggests that parents whose neurophysiology supported emotion regulation and attention when discussing incidents of subtle racial bias created an environment that facilitated the reduction of children's anti-Black attitudes. This pattern is similar to the findings regarding parent tenseness. The parental HR reactivity findings suggested a contrasting story, however. For some parents, greater physiological arousal (as indexed by HR) when discussing blatantly biased incidents apparently facilitated a reduction in children's implicit anti-Black attitudes. It is important to note that parental RSA reactivity and HR reactivity were not correlated with one another. Yet, as seen in Table 1, the RSAR and HRR difference scores were negatively correlated--indicating that parents who showed relatively more RSA reactivity in response to subtle incidents of bias tended to show relatively more HR reactivity in response to blatant indicants of bias. Although a profile indicative of calmness or lack of tension in response to blatantly biased incidents emerged as supporting decreased anti-Black attitudes for RSA reactivity and nonverbal behavior, greater physiological arousal (HR reactivity) seems to have facilitated conversations about blatantly biased incidents for a somewhat overlapping subset of parents.

The inclusion of ANS measures provides new insight into what goes on "under the skin" during White parent-child conversations about racism that facilitate decreases in children's implicit anti-Black attitudes. Overall, these findings indicate that, irrespective of the content of discussion prompts, at best, parents appearing tense or physiologically aroused during the conversation was associated with decreased implicit anti-Black attitudes among children, and at worst, parental tenseness or physiological arousal was associated with no change in children's

implicit anti-Black attitudes. In fact, our evidence suggests it may actually be helpful for White children to see their parents model discomfort with racially biased behaviors; from an anti-bias perspective, witnessing such behaviors should evoke negative emotion or make us uncomfortable.

In the current study, we used a pre-post design, which is quite common in the literature on interventions to reduce prejudice among children (see Aboud et al., 2012).^[54] Recent meta-analytic evidence indicates that changes in implicit biases are generally much more robust in pre-post designs,^[55] likely due to the increased power and reduced error variance afforded by within-subjects designs. Thus, our approach maximized our ability to reliably detect effects in our sample, given the time and labor intensive nature of dyadic physiological data collection. Although we did not have a true control group, and therefore cannot rule out the possibility that time or repeated administrations of the IAT influenced children's implicit anti-Black bias scores, we believe that the observed evidence that children's IAT scores were not correlated with those of their parents at pretest (but were at posttest) suggests that participation in the study influenced children's implicit attitudes. In addition, the observed pattern of associations between children's D-scores and parents' nonverbal tenseness and physiological responses would be strikingly improbable if the changes were due simply to repeated administration and not to any properties of the conversations. Moreover, prior work indicates that the implicit anti-Black attitudes of White U.S. children (of a similar age) do not significantly decrease with repeated administrations of the IAT ($M_{diff} = .04$, $p = .417$).^[32] The average IAT D-score we observed after children had the racial socialization conversation was close to zero (indicating little to no preference for White or Black individuals), which is substantially lower than the average race-IAT score previously observed in studies measuring White children's implicit anti-Black attitudes.^[32] Although all of

these factors increase our confidence that the change in IAT scores was a function of the conversation protocol, we cannot separate out other factors that covaried with the conversation (such as the content of the video prompts). Future work should include a true control group in order to examine whether other factors may play a role.

Although we cannot know for sure why vocal anxiety was not predictive of changes in children's implicit anti-Black attitudes, we speculate that this may be because our vocal anxiety measure was contaminated with verbal information. Although coders were instructed to code vocal anxiety, exclusively, because the audio had to be turned on, their perceptions of vocal anxiety may have been influenced by the content of the conversation. Thus, although vocalics (e.g., vocal anxiety) serve as highly potent nonverbal cues, ultimately, it may have been too challenging for behavioral coders to avoid being influenced by the conversation content. Additionally, our investigation of the relation between parents' nonverbal signals and physiological arousal with changes in children's implicit anti-Black attitudes was exploratory. Thus, future research is needed to confirm that these effects replicate.

The current work focused on facilitating a method through which White parents could not only successfully discuss racial bias with their children, but also teach their children about the potential negative consequences of racial bias for Black children. For example, our prompts provided tools for parents and their children to engage in perspective taking and empathize with the Black child in each video. Although there is evidence that many White parents are well meaning and want their child to be racially egalitarian,¹² it is important to acknowledge that some parents may have the opposite intentions, and engage in overtly racist conversations that are meant to increase their child's racial biases. Moreover, evidence suggests that colorblind approaches to discussing racism are not beneficial to children's prejudice reduction.^[36]

Questions regarding the impact of overtly racist or colorblind conversations are beyond the scope of this report; however, we want to emphasize that we do not believe that our method, specifically, or conversations about race and racism, in general, will reduce White children's racial biases, irrespective of their content. Related to this, it may be worthwhile for future work to examine the specific messages parents convey when discussing race with their child. For instance, prior work indicates that language can transmit essentialist beliefs to children.^[50] Thus, a more thorough coding of the conversation content for different types of racial messages may be a fruitful line of future inquiry.

The current research is the first, to our knowledge, to demonstrate the effectiveness of an intervention designed to promote and facilitate parent-child conversations about race and racial bias in White American families. Although White parents generally tend to avoid explicitly referencing race in experimental contexts, we found that only 6% of parents entirely avoided references to race. A recent investigation revealed that White parents often demonstrate a lack of motivation to bring up the topic of race with their children; instead, they wait for their children to ask them about race or simply view racial discussions as irrelevant to their families^[33]. This study presents a paradigm that should prove useful in efforts to jump-start conversations about race in White families, giving them a starting point for a productive, color conscious conversation. Moreover, these conversations significantly reduced implicit anti-Black attitudes among both parents and children and synchronized the racial attitudes of parents and children (consistent with findings reported by Katz, 2003^[54]). This provides a promising avenue for efforts to prevent and attenuate implicit anti-Black attitudes at the family level. Importantly, it suggests that simply giving parent-child dyads a one-time experience with user-friendly tools—

engaging videos and simple conversation prompts—could be a resource-efficient starting point upon which later, more intense interventions could build.

Although we cannot know how long the attitude changes observed here might last, it is possible that discussing racial attitudes with parents is a distinctive experience (most parents of children in this age range report rarely having discussed racial attitudes with their children ^[5]), which could make it particularly impactful. This conversation may have also provided children insight into their parents' racial attitudes—which most White American children do not have. Indeed, the discussion task did synchronize the implicit racial attitudes of parents and children, and these insights about their parents' attitudes could continue to shape children's thoughts and perceptions into the future. Future longitudinal work will be important for determining whether these changes persist over time. It is also worth noting that this experience may have provided parents with the guidance and confidence they needed to engage in conversations about race with their children. Thus, it is possible that the conversation task parents engaged in with their children in the lab opened a line of communication between parents and their children about the topic of race and racial biases, which will continue into the future. Thus, another important question for future research is whether engaging with their child in the context of a semi-structured race discussion task impacts parents' longer-term behavior and willingness to engage with their child on the topic of race.

Method

Study Participants and Design

We recruited 83 self-identified White parents and their children from the greater Chicago metropolitan area, in exchange for a \$50 gift card. Approximately 91.5% were mothers ($M_{age} = 42.57$ years, $SD = 5.14$) and 53% of children were girls ($M_{age} = 8.95$ years, $SD = 1.16$). We

focused on middle childhood (8-12-year olds) because, by this age, children have developed an abstract understanding of the concept of race¹³ and are capable of discussing challenging topics with their parents.¹⁹ Three children did not complete the pre-test of implicit racial bias, thus we had complete data from 80 dyads. A sensitivity power analysis using G*power 3.1 software, indicated that we had 80% power to detect the primary effect of interest (changes in children's anti-Black attitudes) as small as $d = .31$ (using a paired samples t-test).

Materials and Procedure

Before coming into the lab, parents completed a battery of questionnaires (see the [supplement](#) for a full list of measures included in the study) and were told that they would be randomly assigned to discuss one of several potential social groups with their child (e.g., people of varying weights, racial groups, or gender). This method was employed in order to reduce social desirability concerns before families arrived at the lab. Upon arriving at the lab, parents and their children were told that they had been “randomly assigned” to discuss racial groups, but in reality, all parents were assigned to discuss race. After the consent/assent process, parents and children independently completed several measures, including the standard Black-White Implicit Association Test (IAT) and the Child Black-White IAT, respectively.^{20, 21} Parent-child dyads then reunited and engaged in a semi-structured discussion task in response to animated videos of Black and White children engaging in interracial interactions. Videos were specifically designed to elicit conversation about race and racially biased incidents among parents and children ([blatant example](#), [subtle example](#)). Immediately after each (10-20 second) video, parents and children were prompted to discuss their thoughts and reactions for 2 minutes. After each of the first three videos, parents received the following general prompt: *“Please take the next few minutes to talk out loud about this video.”* After acclimating to the task by responding to the first

three videos, parents were given more specific prompts to help better facilitate the conversation for the remaining seven videos. Specifically, dyads were prompted to discuss (a) whether there was something wrong with the White child's behavior, (b) how the White child's behavior made the Black child feel (to encourage perspective taking), (c) how they would feel if they were the Black child (to encourage empathy), (d) why the White child did what they did, and (e) whether the White child's behavior was prejudiced (accompanied by a definition of prejudice "when someone has a negative opinion of someone because of the group they belong to"; see Figure 3). This method provided parents with specific tools (language and structure) for how to discuss racial incidents. To assess parents' racial socialization approach, we collected video and audio recordings of each interaction. Following the racial socialization task, parents and children were independently asked to complete a set of post-conversation measures, including an IAT. In addition to the IAT, we measured mood before and after the parent-child conversation, but no other measures were completed twice.

Video Stimuli

The videos included depictions of interracial interactions, adapted from Sommers and Norton,²⁴ in which (a) no bias was displayed (control condition; Figure 3), (b) subtly biased behaviors were displayed by a White child against a Black child (e.g., a White child feeling uncomfortable around a Black child), and (c) blatantly biased behaviors were displayed by a White child toward a Black child (e.g., a White child calling a Black child names). Two counterbalance conditions varied the order of the videos (see [supplement](#) for details), but all participants first responded to a neutral video and two subtle videos (paired with the open-ended prompt), followed by two neutral videos, two subtle videos, and three blatant videos (paired with the more structured prompt).

Figure 3

Examples of prejudiced and neutral behavior stimuli and race discussion prompts

Tiffany thinks that all Black kids are dumb. The other day when the teacher wasn't looking, she called Casey stupid.

Please take the next few minutes to talk out loud about this video. Here are some things we would like you to talk about. Feel free to replay the video if you need to.

1. Do you think that there was something wrong with Tiffany's behavior?
2. How do you think Tiffany's behavior made Casey feel? How would you feel if you were Casey?
3. Why do you think Tiffany did what she did?
4. Do you think Tiffany's behavior was prejudiced? *Prejudice is when someone has a negative opinion of someone because of the group they belong to.*

Sara and Jennifer get picked up at same bus stop. They sometimes sit together on the bus.

Dependent Measures

Implicit Association Test (IAT)

When completing the IAT, parents were tasked to simultaneously categorize grey-scale images of “Black” and “White” faces by race and valenced words, such as “good” and “bad.” For one part of the task (order counterbalanced), Black faces and good words were categorized using the same response key, whereas White faces and bad words were categorized using another response key. For the other part of the task, the pairings were reversed such that White faces and good words were categorized using the same response key whereas Black faces and bad words were categorized using another response key.

The Child IAT was similar, although the task was adapted to use color photographs of Black and White children for race categorization. Children were asked to match these faces to

another child of the same race and to match valenced pictures that represented “good” (e.g., ice cream) or “bad” (e.g., snake) with a cartoon smiling face or a frowning face, respectively.

Preceding each of the tasks involving both race and good/bad was an unscored practice round for participants to get used to making these categorizations.

Data Sources and Analytic Strategies

Parental Nonverbal Cues

Because we were interested in what parents’ nonverbal cues might convey to their children about their (dis)comfort with the conversation, ideally, we would have measures of children’s interpretations of their parent’s nonverbal signals. However, asking children to reflect on their parent’s nonverbal cues in this way after each of the ten videos would have interrupted the flow of the conversation and potentially compromised the quality of the interaction. Instead, we asked two undergraduate research assistants to code parents’ nonverbal signals when discussing each of the ten videos with their child. Our goal here was to assess lay impressions of tenseness and anxiety, thus we did not instruct our research assistants to rely on any specific behaviors (e.g., furrowed brows, deep sighs) to determine parental tenseness and anxiety. Using this approach, we hoped to gain an ecologically valid (similar to what a child’s impression might be) measure of parental tenseness and anxiety.

Six female undergraduate research assistants were trained by the project coordinator to code parents’ nonverbal behavior using their intuitive judgment during each of the ten 2-minute segments. First, watching the videos with the audio off, coders indicated whether parents seemed “physically stiff or tense” by recording a “1” for the presence of tenseness or a “0” for the absence of tenseness. Next, coders watched the videos with the audio on and indicated how anxious the parent sounded during the discussion using the instructions, “In general, how

anxious/uncomfortable does the parent appear to be (what is their tone of voice)?” Vocal anxiety was coded on a scale from 1 (not at all) to 5 (very much). We were unable to achieve adequate reliability with several coders, which is not uncommon when using intuitive judgments of nonverbal behavior,^[27] thus we double-coded all data, consistent with recent behavioral coding recommendations.^[48] Each video was coded by two of the six coders and codes were averaged across the two coders.^[47] Thus each code represented a composite of two unique observations of tenseness (*Tetrachoric Correlation* = .26) and anxiety (*Pearson’s r* = .22). Possible tenseness scores ranged from 0 to 1, such that a 0 indicated that neither coder perceived the parent to be tense during the conversation, 0.5 indicated that one coder perceived the parent to be tense, and 1 indicated that both coders agreed that the parent seemed tense during the conversation. Possible anxiety scores ranged from 0 to 5, with higher scores indicating more anxiety. Then the codes for all of the videos in a given condition (subtle, blatant) were averaged together to get an overall score for each measure of nonverbal behavior³ (tenseness, anxiety) in each condition.

Parental Physiological Responses

We measured parents’ physiological responses using electrocardiography (ECG; Biopac MP150, Data Acquisition System, Biopac Systems, Inc., www.biopac.com). We used a modified lead II configuration of spot sensors placed on the torso. Physiological measures were collected continuously from parents during the resting baseline and throughout the race conversations. Using Mindware HRV, data in 30-second segments were visually inspected off-line by trained research assistants for artifacts and edited as needed. One HR value was physiologically implausible and thus removed. Per the standard in the field, reactivity scores were calculated by

³ We also coded nonverbal parental engagement during the discussion task, which is reported in Supplemental Materials. This is the only additional predictor we examined that is not reported here. Implicit bias is the only child measure that was taken pre-test and post-test.

subtracting baseline responses (the last 30-sec of baseline) from every 30-sec segment of the conversations. There was one HR and two RSA cases where the final segment of the baseline was missing. For these, we imputed the value for the final segment as the average of the other nine segment values and used the imputed value to calculate reactivity scores. RSA and HR reactivity scores were then averaged across the subtle stories and blatant stories separately. There were seven RSA reactivity scores that were more than 3 standard deviations from the mean, which were considered outliers and winsorized to the next highest value. There were 15 HR reactivity scores that were more than 3 standard deviations from the mean, which were considered outliers and winsorized to the next highest value (in total 0.004% of the HR reactivity data was winsorized).

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Parent-Child Study Design