



Empowering behaviors to address race with kids (EmBARK): A racial socialization program for white families

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ABSTRACT

We evaluated the EmBARK (Empowering Behaviors to Address Race with Kids) program, which we developed to help White parents in the US address race and racial biases with their White 5- to 7-year-old children. Parents ($N = 73$) completed EmBARK or control condition activities matched for time commitment and engagement with their child. We achieved remarkable compliance with EmBARK, with 95% of parents completing every program component. Parents also liked EmBARK, found EmBARK useful, and successfully implemented EmBARK activities with their children. Parents praised EmBARK's structured guidance for having conversations about race with their children. Parents in the EmBARK condition (vs. control) expressed more concern about, and self-efficacy to address, children's racial biases. This study lays groundwork for assessing the long-term impact of EmBARK on reducing children's racial biases. The findings provide hope that when given resources and guidance, White parents could become active agents in addressing children's racial biases.

“Your 5-year-old is already racially biased” *EmbraceRace* (Grant-Thomas, 2017).

“We need more White parents to talk to their kids about race – Especially now” *Washington Post* (White-Cummings, 2020).

The headlines above draw attention to two issues that have taken center stage in developmental science concerning children's racial biases. First, research has repeatedly demonstrated that children display racial biases starting as early as the preschool years (Baron & Banaji, 2006; Kowalski, 2003; Raabe & Beelmann, 2011; Rizzo et al., 2022)—and concerns about such findings have become prominent in the popular press (Grant-Thomas, 2017; White-Cummings, 2020; for a review, see Scott et al., 2020b). Second, alongside increased attention to children's racial biases and their pernicious effects (Trent et al., 2019), questions arise concerning what to do about these biases. One possibility highlighted in the headlines above is that parents—in particular, White parents, whose White children show the most robust and consistent racial biases favoring their own group over other groups early in life (Rizzo et al., 2022; Scott, Ash, et al., 2023)—could take responsibility for addressing race and racial biases with their children.

Despite many calls for engaging White parents in addressing their

White children's racial biases, research has rarely focused on this issue (for a review, see Scott et al., 2020b). There is, however, significant research focused on when and how parents of color talk to their children about race, including studies showing positive effects of parent racial socialization on the development of children of color (e.g., Anderson & Stevenson, 2019; Hughes et al., 2006; Lesane-Brown, 2006; Umaña-Taylor & Hill, 2020; Wang et al., 2020). Against the backdrop of limited research with White parents but positive potential highlighted in research with parents of color, Scott et al. (2020b) issued a call to action for researchers to develop and test intervention approaches that could contribute to an evidence base for guiding White parents in how to address race with their children. The present research is a response to this call. Here, we evaluate whether an intervention program that we developed (EmBARK, which stands for Empowering Behaviors to Address Race with Kids) can successfully engage White parents in efforts to address race and racial biases with their White children, thus creating potential for reductions in White children's racial biases.

White parents' racial cognition and socialization practices

On the surface, the suggestion to engage White parents in efforts to

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address race with their children is eminently sensible. After all, parents play a pivotal role in shaping children's social lives (Rohan & Zanna, 1996; Tam et al., 2012) affecting, for example, the people with whom their children regularly interact and the diversity of children's social contexts (e.g., school district, social events, parks visited; Astill et al., 2002; Hagerman, 2014; Rubin & Sloman, 1984; Schneider, 2016). In addition, young children often look to their parents for guidance on how to think and behave (Eccles, 2009). And, throughout development, children's values tend to align with their understanding of their parents' values (Knafo & Schwartz, 2009; Whitbeck & Gecas, 1988). By nature of their relationship, parents also typically have deep connections and continued contact with their children. These circumstances should naturally create opportunities for parents to tailor conversations about race and racial biases to their children's own lives, and to do so with continuity. And indeed, correlational research suggests that when White parents have meaningful conversations about race with their children, their children have lower levels of racial bias and are less approving of racial discrimination (8- to 12-year-old children: Perry et al., 2024; 4- to 10-year-old children: Scott, Henkel, et al., 2023).

Despite the potential for White parents to engage with their children on issues of race and racial biases, research has repeatedly demonstrated that White parents often do not engage in meaningful racial socialization with their children regardless of children's age (Abaied & Perry, 2021; Brown et al., 2007; Galán et al., 2022; Hughes et al., 2006; Hunter et al., 2012; Juang & Syed, 2010; Lesane-Brown et al., 2010; Loyd & Gaither, 2018; Perry et al., 2019; Rivas-Drake et al., 2009; Spanierman, 2022; Tyler et al., 2008; Zucker & Patterson, 2018). For example, in a nationally representative sample of White parents of kindergarteners, most parents reported never talking to their children about race (Lesane-Brown et al., 2010). Other research has shown that when White parents do discuss race with their children ranging from preschool age through adolescence, they often engage in color-evasive or very surface-level conversations about race (e.g., Hunter et al., 2012; Rogers et al., 2024; Vittrup, 2018). White parents avoid race-related discussions even when they report progressive attitudes and wish to raise children with egalitarian values (Pahlke et al., 2012).

Why do White parents avoid race-related conversations? One compelling reason for parents' avoidance is that White parents of 4- to 12-year-old children are often unaware of children's proclivity to express racial biases and, lacking that awareness, they are not highly concerned about or motivated to address racial biases with their children (Scott et al., 2020a; Scott, Ash, et al., 2023; Sullivan et al., 2021). Once White parents are made aware of children's racial biases, their concern about and motivation to address racial biases with their children increases, at least for parents of 5- to 7-year-old children (Scott, Ash, et al., 2023). However, even White parents who are motivated to address race and racial biases with their children are typically not well equipped to have such conversations—and the idea of doing so can elicit both anxiety and avoidance (e.g., Pahlke et al., 2012; Vittrup, 2018; Wu et al., 2022). Some White parents worry that talking about race with their 3- to 12-year-old children could increase children's racial biases and other White parents simply do not know what to say (Hagan et al., 2024; Hamm, 2001; Perry et al., 2024; Wu et al., 2022). Indeed, a study by Vittrup and Holden (2011) revealed that simply telling White parents to have in-depth conversations about race with their 5- to 7-year-old children over the course of a week resulted in significant avoidance; only 10% of the parents reported doing so (Vittrup & Holden, 2011).

When White parents of 8- to 12-year-old children (Perry et al., 2024) and teachers of third to fifth grade students (Killen et al., 2022) have been provided with more concrete guidance on what to discuss about race, however, they seem able to have conversations that correlate with (Perry et al., 2024) or cause reductions in (Killen et al., 2022) children's racial biases. Thus, it seems clear that leaving parents to their own devices is an ineffective way to realize the call for White parents to address race and racial biases with their children. Rather, White parents likely need education and support to effectively take action to address these

issues with their children. We take each of these considerations into account in the development of EmBARK.

Current research

The intervention program we developed empowers White parents to serve as interventionists with children to address issues of race and racial biases, particularly biases against Black people. Extant literature suggested that White parents of 5- to 7-year-old children would be ideal to target because this is an age at which children reliably demonstrate awareness of race and exhibit preferences based on race (Aboud, 2003; Burke et al., 2023; Raabe & Beelmann, 2011; Rizzo et al., 2022). This is also an age range in which children are highly influenced by their parents (Rohan & Zanna, 1996; Twito-Weingarten & Knafo-Noam, 2022). We targeted White families because, as discussed previously, White children typically display robust racial biases (Rizzo et al., 2022; Scott, Henkel, et al., 2023) and White people often uphold systems of power and oppression in our society (Rogers & Way, 2021). Finally, we focused on anti-Black biases because White children's biases are particularly pronounced in the Black-White context (Aboud & Doyle, 1995; Dunham et al., 2013; Kinzler et al., 2009; Rizzo et al., 2022; Shutts et al., 2013; Steele et al., 2018).

Goals of the EmBARK program

Our specific goal in designing the program was to empower parents to address issues of race with their children. The adult prejudice reduction literature (Carnes et al., 2015; Devine et al., 2012; Forscher et al., 2017) and limited work with parents (Scott et al., 2020a; Scott, Ash, et al., 2023) suggests that awareness of racial bias is key to creating concern and motivation to address biases. Yet, research shows that White parents are largely unaware of White children's proclivity to express racial biases and largely uninformed about the consequential nature of such biases (Scott et al., 2020a; Scott, Ash, et al., 2023). As such, one goal of EmBARK is to increase White parents' awareness of, concern about, and motivation to address children's racial biases. Second, White parents are often ill-equipped and lack self-efficacy to address issues of race and racial biases with their children (e.g., Pahlke et al., 2012; Vittrup, 2018; Wu et al., 2022). Thus, a second goal of EmBARK is to provide parents with guidance on how to address race and racial biases with their children. Finally, whereas most prejudice-reduction interventions with children target children directly in single session laboratory studies (Aboud et al., 2012), EmBARK aims to help parents address race and racial biases in their children's everyday lives over time. These goals are actualized through several components, described below.

Increasing parents' awareness of, concern about, and motivation to address children's racial biases

Part 1 of the EmBARK program is a training video that aims to increase parents' awareness of, concern about, and motivation to address children's racial biases. To do so, the first section of the training introduces parents to information about the nature, prevalence, and consequences of White children's racial biases in vivid and compelling ways. The second section of the training video is designed to increase parents' ability and self-efficacy to effectively address race and racial biases with their children. Parents are presented with three concrete strategies that can help them both convey their values to their children and work with their children to address their children's racial biases. We selected the strategies of perspective taking, individuation, and intergroup contact as these strategies have been shown to produce short-term reductions in children's biases in laboratory settings (Aboud et al., 2012; Beelmann & Heinemann, 2014; Pettigrew & Tropp, 2006; Qian et al., 2017; Sierksma & Bijlstra, 2018). In addition to the three strategies, and guided by new research on the importance of anti-racism (e.g., Aldana et al., 2019; Hazelbaker et al., 2022), parents are offered advice on how

to teach their children to stand up to biased and unfair behavior in their own lives.

Throughout the second section of the training video, parents learn that to be effective in addressing race and racial biases with their children, they will need to engage in bias-reduction efforts with their children over time. Further, they are told about ineffective strategies such as ignoring race altogether or being color-evasive in discussions (also sometimes referred to as “racial colorblindness;” Apfelbaum et al., 2012) and are encouraged not to use such strategies because they often exacerbate racial biases and interracial tension (Apfelbaum et al., 2008; Apfelbaum et al., 2012; Holoien & Shelton, 2012; Richeson & Nussbaum, 2004; Vorauer et al., 2009; Wolsko et al., 2000). The training video ends by foreshadowing Part 2 of the EmBARK program, which involves interactive activities centered on shared book reading for parents and their children to complete in the two weeks following the training video.

Providing opportunities to address racial biases in everyday life

Part 2 of the EmBARK program provides materials for parents to practice have discussions with their children about race and racial biases and to help parents practice integrating the strategies into their children's everyday experiences. Parents are sent five age-appropriate storybooks that involve Black characters to read with their children. Some of the storylines focus on racial biases (e.g., exclusion based on skin color) whereas other storylines focus on everyday life activities (e.g., a child confronting their fear of jumping off a diving board; a pair of children who like doing science projects together). Each book lends itself to the use of one or more of the strategies. For each storybook, parents are provided with discussion prompts to help them utilize the strategies learned in the training video while reading the books. Finally, each book ends with an end-of-book activity (that we created) to allow for continued conversations about race and racial biases and to help promote generalization of the strategies to their children's everyday lives. Additional details about the specific books, discussion prompts, end-of-book activities, and implementation of the EmBARK program are provided in the method section.

Evaluation of the EmBARK program

EmBARK requires a substantial time commitment from parents and it was far from a given that amid all their other commitments, parents would enroll in the study, and once enrolled would complete the training video, all the book readings, and end-of-book activities (e.g., Vittrup & Holden, 2011). Hence, the major goal of the present study was to evaluate whether White parents would follow through with the full EmBARK program. To the extent that parents were willing to engage in the program's activities, this alone would provide proof of concept that White parents could embrace the opportunity to serve as interventionists with their children, become motivated to address race and racial biases with their children, and develop efficacy regarding how to implement the bias-reducing strategies they learned with their children. Parents also provided feedback on their liking and valuation of the EmBARK program and suggestions for changes to help inform future iterations of the EmBARK program and research. If parents reported that they liked or valued the program or found the program useful, this would suggest that parents may engage in efforts to address race and racial biases with their children beyond the study context.

As previously discussed, awareness of racial biases is important to increase concern about racial biases and to motivate bias-reduction efforts (Devine et al., 2012; Forscher et al., 2017; Scott, Ash, et al., 2023). Self-efficacy is also crucial as it is one of the strongest predictors of whether effort will be expended or whether people will succumb to anxiety in the face of challenges (Bandura, 1977, 1988; Bandura & Schunk, 1981; Matovu, 2020; Ng & Lovibond, 2020; Schunk, 1995). Accordingly, in addition to measuring compliance with and reflections on the study activities, parents responded to measures that should

predict their regulation of their children's intergroup biases. Specifically, parents self-reported their awareness of, concern about, motivation to address, and self-efficacy to address children's racial biases on standardized quantitative measures. Each of these measures was collected at baseline to characterize the sample, and at post-test to evaluate the impact of EmBARK on regulation-related outcomes. We hypothesized that, compared to control condition parents, parents who received the EmBARK program would show higher awareness of, concern about, motivation to address, and self-efficacy to address children's racial biases.

Method

The method and analysis approach for the present study were pre-registered on OSF and are described below. All data, measures, and supplemental analyses for this project can also be found on OSF: <https://osf.io/wyazp/>.

Participants

Participants ($N = 73$) were White parents (demographics at baseline: 72 female, 1 male; $M_{age} = 38.49$ years, $SD_{age} = 3.44$ years, range = 29 to 46 years) of White 5- to 7-year-old children (demographics at baseline: 35 girls, 38 boys; $M_{age} = 6.10$ years, $SD_{age} = 0.81$ years, range = 5.03 to 7.84 years) recruited from a child development database affiliated with a research university in the midwestern region of the United States. Families had a median annual income bracket of \$125,000 to \$150,000, and most participants had completed an advanced degree beyond college (2.74% some college, 28.77% completed college, 2.73% working towards an advanced degree, 65.75% advanced degree). If parents had more than one child in the 5- to 7-year-old age range, we randomly assigned parents to focus on and engage in study activities with one child throughout the study. If there was more than one parent in the family, we asked families to select one parent to complete the study.

An a priori power analysis suggested a necessary sample of 63 participants to have 80% power to detect an effect of condition of $\eta_p^2 = 0.14$. We chose this effect size as we anticipated that parents' deep involvement throughout EmBARK would have a large effect on their thinking about addressing race and racial biases with their children. Following our preregistered recruitment plan, we increased this number to 64 to have a balanced number of participants in each condition. We anticipated attrition and exclusions, so aimed to recruit 72 participants. We had one extra parent (beyond 72) complete the study and we included all participants who completed the study in analyses. We had a very high retention rate; see results for information about completion and compliance.

Design and procedure

This study was approved by the University of Wisconsin-Madison's Institutional Review Board (IRB#: 2020–1026). Parents first completed a screening survey and were invited to participate in the full study if everyone in their child's household(s) was White and their child was between 5 and 7 years old. Once enrolled, parents were randomly assigned to participate in EmBARK ($n = 38$) or a control ($n = 35$) condition. Parents in both conditions were informed that the purpose of the study was to evaluate a program to engage White parents in addressing race with their children. After providing informed consent, all parents completed measures before any study activities began and again two weeks after they received the storybooks. All assessments and study activities took place in parents' own homes. See Table 1. At the end of the study, parents were paid \$50 and kept all the books and other materials they received as part of the study. All data were collected in January and February of 2023.

Table 1
Timeline for Study Activities by Condition.

Timing	EmBARK Condition	Control Condition
Week 0	Baseline survey for parents (15 min) EmBARK training video for parents (45 min) Parents and children watch video of the first half of <i>Our Skin</i> being read aloud	Baseline survey for parents (15 min) Parents and children watch video of the first half of <i>Fabulous Frogs</i> being read aloud
Weeks 1–2	EmBARK materials for practice Parents read and discuss race-relevant books with child Parents complete survey about book reading	Additional materials for “practice” Parents read and discuss race-irrelevant books with child Parents complete survey about book reading
Week 3	Post-test for parents (15 min)	Post-test for parents (15 min) EmBARK training video for parents (45 min)

EmBARK condition

Following the baseline survey, parents in the EmBARK condition were asked to complete the EmBARK program, described above and outlined in Table 1. Each part of the program triggered the next step to begin (e.g., completing the baseline survey triggered sending of the training video), so parents had to complete each part of the program in the specified order. Here we expand on some of the details of the EmBARK program.

For the EmBARK program, parents first completed the training video focused on addressing race and racial biases with their child. As noted above, the training video teaches parents about the prevalence and consequences of children's racial biases. Parents learn about research showing racial biases are commonly exhibited by children, including White children, and hear testimony about the negative effects of Black children's experiences as targets of biases (e.g., impaired school performance). Next, parents learn about strategies they can use to address race and racial biases. Each strategy is introduced with simple language, tailored to the parent-child context, and supplemented by examples of how to apply the strategies in everyday settings.

The *perspective-taking strategy* encourages parents to help their children feel more empathy for others and imagine what it would feel like to be excluded from social activities or to be stereotyped by others. For example, parents are encouraged to ask their children how it would feel to be excluded from play because of the color of their skin. The *individuation strategy* encourages parents to share with children the value of looking beyond group membership when judging or interacting with others. Parents learn, for example, to encourage their children to ask, “How do I know what this person is like?” before making judgments about Black people. The *intergroup contact strategy* encourages parents to share with their children the value of interacting with Black people and showcases how they can diversify their child's social experiences (e.g., diversifying the books that they read together, seeking out opportunities to socialize with Black families). Finally, to promote anti-racist behaviors, the *stand up to bias strategy* teaches parents to help their children recognize and respond to racial biases. For example, parents are encouraged to teach their children simple phrases like “That's not a fair thing to say” or “Let's let everyone play.”

At the end of the training video, parents provided an open-ended response with their action plan for addressing race with their child in the next two weeks. After completing the training video, parents were sent a video of a member of our research team reading the first half of a book called *Our Skin* (Madison et al., 2021). Parents were asked to watch this “read aloud” video with their child to introduce the topics that would be discussed throughout the next two weeks. Specifically, the first half of *Our Skin* introduces children to race-relevant terminology (e.g., “people of color,” “Black people”) that parents would then be able to use

in conversations about race throughout the other book-reading discussions. Parents were told that they would receive *Our Skin* in the mail and would be asked to read the complete book later because the latter part of the book focused on more complex topics, such as systemic racism and standing up to biases.

Following the read aloud video, parents received five age-appropriate storybooks in the mail (see Table 2 for a list of books). Along with the books, parents were sent a handout summarizing the content of the EmBARK training video and guidance on how to integrate the strategies from the training video while reading the books. Additionally, each storybook contained discussion prompts on sticky notes at key places in the book that highlighted how the strategies parents learned in the training video could be applied.

The books were chosen to standardize some of the information that parents conveyed to children. The books taught children about many different topics. For example, some of the books modeled positive qualities and contributions of Black people including Black joy (*Jabari Jumps*, *Ceci Loves Science*), positive family dynamics amongst Black families (*Jabari Jumps*), Black people in science fields (*Ceci Loves Science*), and Black people's resilience to discrimination (*Ron's Big Mission*, *I Walk with Vanessa*). Other books modeled interracial friendship (*I Walk with Vanessa*, *Ceci Loves Science*, *Ron's Big Mission*). And finally, one of the books explicitly discussed topics of racial discrimination including discussions of social class, inequity in policing, structural racism, and white privilege (*Our Skin*). The discussion prompts were designed to encourage parent-child conversations about race and racial biases and to provide examples for parents of what to say or do to help their child practice the strategies from the intervention. For example, a discussion prompt to practice perspective taking read: “Vanessa has brown skin and that bully made a mean comment about it. How do you think that made Vanessa feel?” Another discussion prompt focused on individuation read: “Remember the books we read before about Jabari, Cece, and Ron? Well Jabari liked jumping off the diving board; Cece liked science; and Ron likes basketball. They all have pretty different things they like!”

Finally, we created an end-of-book activity to accompany each storybook that provided hands-on practice using the different strategies from the training video. For example, the end-of-book activity at the end of *Ceci Loves Science* encouraged imagined intergroup contact (Birtel et al., 2019):

Ask your child to imagine having fun playing with a child who has a different skin color than they do. To help them imagine this, help your child draw a picture of themselves playing with a Black child. You'll find crayons that your child can use to draw this picture in the supply bag.

Parents were asked to read each book and complete the associated end-of-book activity at least once during the two week “reading period.” For each book and associated end-of-book activity, parents were asked to complete a survey reporting their thoughts about each book (for more detail, see the Evaluation of EmBARK section below). These responses provide insight into parents' liking of, valuation of, and engagement with the program. Throughout the two-week book reading period, parents received three reminders (via email) to read the books and

Table 2
Books Included in Each Condition.

EmBARK Condition	Control Condition
<i>I Walk with Vanessa</i> (Kerascoët, 2018)	<i>The Goose Egg</i> (Wong, 2019)
<i>Jabari Jumps</i> (Cornwall, 2017)	<i>Fox and the Jumping Contest</i> (Tabor, 2016)
<i>Ceci Loves Science</i> (Derting et al., 2020)	<i>Giraffes Can't Dance</i> (Andreae, 2012)
<i>Ron's Big Mission</i> (Blue et al., 2009)	<i>Stellaluna</i> (Cannon, 2018)
<i>Our Skin</i> (Madison et al., 2021)	<i>Fabulous Frogs</i> (Jenkins & Hopgood, 2016)

Note. Parents were asked to read the books in the table in the order listed. *I Walk with Vanessa* is a book that has no words; to help parents read this book, we wrote a story to accompany the pictures and pasted the story into the book for each participant.

complete each survey after reading each book. To enhance compliance with survey completion, each book contained a QR code (which took them to the book reading survey) and a link to the book reading survey (if they did not want to scan the code).

Control condition

The control condition was matched to the EmBARK condition in terms of amount and type of engagement with their child (see Table 1). To provide context for the baseline and post-test surveys, as well as the control books and associated end-of-book activities, parents were told we needed to collect some initial information about their thoughts on race and give them practice with various activities prior to sending them the training video on addressing race with their children. And, after they completed the post-test survey, we sent parents in the control condition the full EmBARK program.

Following the baseline survey, parents in the control condition were asked to watch a video that featured a member of our research team reading aloud the first half of *Fabulous Frogs* (which was matched in length to the first half of *Our Skin*). They also received five books that were approximately matched in word count, target age, and reading time to the books in the EmBARK condition. These books did not contain any human characters and were not about race (see Table 2 for a complete list). As with the EmBARK books, the books contained discussion prompts on sticky notes to help parents engage with their children about the content in the books. For example, in the book *The Goose Egg*, one of the discussion prompts asked, "What do you think Henrietta and the goslings are painting?" The discussion prompts were used to match the amount of parent-child conversation during book reading to the EmBARK condition. Finally, parents in the control condition completed end-of-book activities with their children that were matched in word length and activity type to the EmBARK end-of-book activities but featured no human characters and no content about race. For example, the end-of-book activity at the end of *Giraffes Can't Dance* had children draw two animals playing together to match the coloring activity associated with *Cece Loves Science*.

Measures

Parents provided all data through Qualtrics surveys on their own devices. Many of the measures were adapted from existing measures in the field, whereas others were created by the authors for this study. In addition to the measures reported below, for exploratory purposes, we collected additional open-ended responses to receive feedback on specific aspects of the EmBARK program; see Supplemental Materials for details on these measures.

Characterizing the sample

Concern about discrimination as a social problem. To characterize the race-related values of participants in our sample at baseline, parents completed a measure of their concern about discrimination as a social problem (Devine et al., 2012). Specifically, parents responded to four items (e.g., "I consider racial discrimination to be a serious social problem") on a 10-point scale (1 = *strongly disagree* to 10 = *strongly agree*). Three items were reverse scored and then a composite score was created by averaging parents' responses across all four items such that higher scores indicate more concern about racial biases ($\alpha = 0.76$).

Program compliance

We tracked parents' completion of baseline and post-test assessments and the training video through their responses on Qualtrics. Similarly, we tracked parents' book-reading and associated end-of-book activities through their responses to the book reading surveys on Qualtrics. To assess compliance, we report the percentage of parents who completed

the baseline and post-test surveys and the percentage of parents who completed each book reading survey.

Program liking and valuation

Book ratings. After each book reading, parents were asked to rate how much their child liked the book, how much the parent liked the book, and how likely they would be to read the book to their child again on a 7-point scale (1 = *not at all* to 7 = *very much*).

Sticky note ratings. After each book reading, parents were asked to rate how much they liked the content in the sticky notes (i.e., discussion prompts) and if they found that the sticky notes helped them apply what they learned in the training video on a 7-point scale (1 = *not at all* to 7 = *very much*).

End-of-book activity ratings. After each book reading, parents were asked to rate how much they thought their child liked the end-of-book activity at the end of the book and how easy it was to understand how to do the end-of-book activity with their child on a 7-point scale (1 = *not at all* to 7 = *very much*).

Overall liking and valuation. During the post-test survey, parents in the EmBARK condition responded to 9 questions assessing the program on several dimensions (e.g., liking, value) on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Example items are, "I am happy I went through the program" and "The program's content was valuable."

Regulation-related outcomes

Parents completed each regulation-related outcome at baseline and at post-test. See OSF for all items within each measure used to assess regulation-related outcomes.

Likelihood of child's racial biases. As our indicator of parents' awareness of children's racial biases, parents reported how likely their child was to express racial biases across different scenarios (Scott et al., 2020a; Scott, Ash, et al., 2023). Specifically, parents read five vignettes describing children's racial biases and rated how likely it was that their child would do what the child in each scenario did on a 5-point scale (1 = *my child would definitely not do this* to 5 = *my child would definitely do this*). Each vignette depicted a behavior typically observed in laboratory studies evaluating children's racial biases (e.g., social exclusion, affiliation preferences). An example vignette is described below:

Your child is at the playground with you and you notice two children there, one of whom is White and one of whom is Black. You ask if your child wants to go play. Your child says, "I'm going to go play with the kid like me" and goes to play with the White child.

A composite score was created by averaging the items together (baseline $\alpha = 0.80$; post-test $\alpha = 0.78$).

Concern about children's racial biases. Parents responded to four items evaluating their concern about children's racial biases (e.g., "I'm not personally concerned about children's biases against Black people") on a 10-point scale (1 = *strongly disagree* to 10 = *strongly agree*; Scott, Ash, et al., 2023). These items focused on parents' concern about children's racial biases, generally. Parents' responses on this measure could include their own children as well as children more broadly and captured whether parents thought children's racial biases were a serious problem. Three items were reverse scored and then a composite score was created by averaging parents' responses across all four items such that higher scores indicate more concern about children's racial biases (baseline $\alpha = 0.83$; post-test $\alpha = 0.64$).

Concern about own child's racial biases. Parents responded to three items

evaluating their concern about their own child's racial biases (e.g., "I am personally concerned that my own child may show biases against Black people") on a 10-point scale (1 = *strongly disagree* to 10 = *strongly agree*; Scott, Ash, et al., 2023). These items captured whether parents were concerned about the possibility of their own child expressing racial biases. Parents may be concerned about children's racial biases, generally, but think that they have adequately taught their own child to avoid racial bias and thus may not be concerned about their own children's biases, specifically. A composite score was created by averaging all three items together (baseline $\alpha = 0.91$; post-test $\alpha = 0.90$).

Motivation to regulate child's racial biases. Parents responded to three items evaluating their motivation to regulate their child's racial biases (e.g., "I want to put effort into making sure my child doesn't behave with bias towards Black people") on a 9-point scale (1 = *strongly disagree* to 9 = *strongly agree*; Scott, Ash, et al., 2023). A composite score was created by averaging all three items together (baseline $\alpha = 0.72$; post-test $\alpha = 0.72$).

Self-efficacy for addressing child's racial biases. Parents responded to five items assessing how confident they were that they could notice (e.g., "I am confident that I can catch bias in my child's behavior") and regulate (e.g., "I am confident I can reduce my child's bias with practice") their child's racial biases on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*; adapted from Carnes et al., 2015). One reverse-scored item was dropped from the measure because it dramatically reduced the reliability of the measure. Results do not change when the omitted item is included and data and analyses including the omitted item are available on OSF. A composite score was created by averaging the remaining four items together (baseline $\alpha = 0.78$; post-test $\alpha = 0.80$).

Questions designed to probe parents' experiences with EmBARK

To provide a richer understanding of parents' experiences with the study and the EmBARK program, parents in both conditions provided open-ended responses that offer insight into their experience with the study; see Table 3. Our coding took a data-driven approach where a member of the research team read through all the responses and identified themes in participants' responses (Birks et al., 2008; Braun & Clarke, 2006). Through discussion, we then developed a codebook that captured the primary themes identified in participants' responses. Two independent coders used the codebook to code 20 responses for each question and then compared and reconciled codes, making clarifications to the codebook as needed. Following this reconciliation stage, the two coders coded the remaining responses. On the remaining responses, we calculated percent agreement for each question, collapsed across all codes; see Table 3. Discrepancies were resolved through conversation

between the two coders. The specific codes and example responses are described in the results section.

Analysis plan

In the results section, we first present descriptive information (means and standard deviations) characterizing our sample. Next, we report on parents' compliance with the current study (percentage of parents completing each component), followed by descriptive information on parents' liking and valuation of the program. We then provide descriptive information and inferential analyses (linear models) on the regulation-related outcomes. All analyses assessing the regulation-related outcomes were conducted in R and the data file and the R code for analyses are available on OSF. For the regulation-related outcomes, we first examined descriptive statistics to characterize our sample. Next, we fit linear models for each outcome in which scores on each post-test variable were regressed on condition while controlling for baseline scores on the corresponding variable. This analysis of covariance (ANCOVA) approach provides an unbiased estimate of effects and maximizes power in comparison with computing a change score from pretest to posttest (see Van Breukelen, 2006 for a more detailed discussion of the analysis approach). Additionally, we ran supplemental analyses testing for main effects of time (pre/post differences) and effects of child age. Finally, we present qualitative analyses with parents' feedback on their experiences with EmBARK.

Results

Characterizing the sample

At baseline, parents in the present sample were highly concerned about discrimination as a social problem ($M_{intervention} = 9.41$, $SD_{intervention} = 1.04$; $M_{control} = 9.14$, $SD_{control} = 1.53$; intervention vs. control: $t(71) = 0.90$, $p = 0.37$, $\eta_p^2 = 0.01$). This indicated that parents in both conditions had values proscribing prejudice prior to the onset of the intervention.

Compliance with the program

All parents in the study completed the baseline and post-test assessments. Every parent in the EmBARK condition also completed the training video. In the EmBARK condition, 100% of parents read and reported on at least four books and their associated end-of-book activities, and 94.74% of parents read and reported on all five books and their associated end-of-book activities. Similarly, in the control condition, 100% of parents read and reported on at least four books and their associated end-of-book activities, and 91.43% of parents read and

Table 3
Questions Designed to Probe Parents' Experiences with EmBARK.

Question	Purpose of Question	Respondents	Time of Collection	Percent Agreement in Coding
Action plan: "Take a few minutes to make a plan for how you are going to address race with your child in the next two weeks. Be as specific as possible about what you will say and do, how it will look, which strategies you will use, and when you will use them. Provide at least a few concrete actions that you are confident you will be able to do."	Help parents set goals Assess engagement with the training video content	EmBARK	Immediately after training video	94.87%
Book feedback: "Were there things in the book itself, the sticky notes, or the end-of-book activity that you particularly liked or particularly disliked? Please explain."	Assess liking and valuation Assess engagement with practice materials	EmBARK & Control Condition	Book Reading Period	95.94%
Useful aspects of program as a whole: "Was there anything you found particularly interesting or useful in the training video, books, sticky notes, or activities?"	Assess liking and valuation Assess engagement with practice materials	EmBARK	Post-test	97.44%
Wished-for content in the EmBARK program: "Was there anything that you wished the training video, books, sticky notes, or activities addressed that was not included in the materials?"	Solicit feedback for future iterations of EmBARK	EmBARK	Post-test	84.44%

Note. Percent agreement in coding indicates the frequency of agreement before resolving discrepancies in coding.

reported on all five books and their associated end-of-book activities. These numbers reveal extremely high compliance with the study procedures.

Liking and valuation of EmBARK

See Tables 4 and 5 for parents' ratings of the books, sticky notes, end-of-book activities, and program as a whole. Across the board, parents provided very high ratings of the program and all associated materials.

Regulation-related outcomes

Finally, we evaluated parents' responses to the regulation-related outcomes of likelihood of, concern about, motivation to address, and self-efficacy to address children's racial biases. Overall, parents reported very high levels for likelihood of, concern about, and motivation to address children's racial biases See Table 6 for descriptive statistics.

Our inferential analyses revealed a significant main effect of time on self-efficacy, which was driven by a change in the EmBARK condition. There were no significant main effects of time on any other regulation-related outcomes and there were no main effects of, or interactions with, child age on any outcomes. Analyses with time and child age are available in the supplemental analysis code and report on OSF but are not discussed further.

Likelihood of children's racial biases

There was a significant positive effect of baseline scores on post-test scores, $t(70) = 3.72, p < 0.001, \eta_p^2 = 0.17$. However, there was no effect of condition on parents' likelihood ratings of children's racial biases, $t(70) = -0.57, p = 0.57, \eta_p^2 = 0.003$.

Concern about children's racial biases

There was a significant positive effect of baseline scores on post-test scores, $t(70) = 5.73, p < 0.001, \eta_p^2 = 0.32$. Supporting our hypothesis, there was also a significant effect of condition on parents' concern about children's racial biases, such that parents in the EmBARK condition reported significantly more concern about children's racial biases at post-test than parents in the control condition, $t(70) = 2.00, p = 0.05, \eta_p^2 = 0.16$.

Concern about own child's racial biases

There was a significant positive effect of baseline scores on post-test scores, $t(70) = 6.84, p < 0.001, \eta_p^2 = 0.40$. However, there was no effect of condition on parents' concern about their own child's racial biases, $t(70) = -0.20, p = 0.84, \eta_p^2 < 0.007$.

Motivation to regulate children's racial biases

There was a significant positive effect of baseline scores on post-test scores, $t(70) = 5.82, p < 0.001, \eta_p^2 = 0.33$. However, there was no effect

Table 4
Ratings of Books, Discussion Questions, and End-of-Book Activities.

Books	<i>I Walk with Vanessa</i>		<i>Jabari Jumps</i>		<i>Cece Loves Science</i>		<i>Ron's Big Mission</i>		<i>Our Skin</i>	
	M	SD	M	SD	M	SD	M	SD	M	SD
"How much do you think your child liked this book?"	6.00	1.05	6.45	0.86	6.26	1.00	6.03	1.17	5.57	1.26
"How much did you like this book?"	6.33	0.99	6.52	0.80	6.26	0.95	6.40	0.93	6.32	0.82
"How likely are you to read this book again?"	6.30	1.06	6.71	0.64	6.40	1.14	6.22	1.42	6.03	1.21
Discussion Questions			M	SD	M	SD	M	SD	M	SD
"How much did you like the content in the sticky notes?"			6.28	1.03	6.02	1.26	5.56	1.16	5.85	1.29
"Did you find that the sticky notes helped you apply what you learned in the training?"			6.26	1.05	6.05	1.25	5.51	1.24	6.00	1.09
End-of-Book Activity			M	SD	M	SD	M	SD	M	SD
"How much do you think your child liked the activity?"			5.35	1.31	6.05	1.27	5.81	1.56	6.32	1.33
"How easy was it to understand how to do the activity with your child?"			6.77	0.65	6.69	0.78	6.81	0.50	6.90	0.38

Note. Responses were on a 7-point Likert scale (1 = not at all to 7 = very much).

Table 5
Overall Liking and Valuation (only completed by parents in EmBARK).

Question	M	SD
"I am happy I went through the program."	6.63	0.97
"The program's content was valuable."	6.47	1.16
"I learned things I did not know."	5.61	1.52
"I think the program will positively affect my life."	6.29	1.16
"I think it would be good for all parents with young children to participate in this program."	6.45	1.16
"I believe the program content will be helpful in my daily life."	6.21	1.21
"I would recommend this program to a friend."	6.55	1.20
"I plan to discuss things I learned in this program with other people."	6.32	1.16
"I believe the program is relevant to my own life."	6.37	1.28

Note. Responses were on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Table 6
Descriptive Statistics of Measures to Assess the Efficacy of EmBARK.

	EmBARK Condition				Control Condition			
	Baseline		Post-Test		Baseline		Post-Test	
	M	SD	M	SD	M	SD	M	SD
Likelihood of Children's Racial Biases	2.01	0.58	1.84	0.73	1.97	0.75	1.90	0.50
Concern about Children's Racial Biases	9.03	1.10	9.14	1.03	8.26	1.73	8.24	1.52
Concern about Own Child's Racial Biases	6.06	2.64	5.39	2.69	5.40	2.46	5.08	2.30
Motivation to Address Children's Racial Biases	8.59	0.73	8.53	0.64	8.33	0.94	8.31	1.01
Self-Efficacy to Address Children's Racial Biases	4.64	0.83	5.83	0.58	4.97	0.97	4.93	0.70

of condition on parents' motivation to regulate children's racial biases, $t(70) = 0.40, p = 0.69, \eta_p^2 = 0.02$.

Self-efficacy to address children's racial biases

There was a significant positive effect of baseline scores on post-test scores, $t(70) = 5.00, p < 0.001, \eta_p^2 = 0.26$. Supporting our hypothesis, there was also a significant effect of condition on parents' self-efficacy to children's racial biases, suggesting that parents in the EmBARK condition reported significantly more self-efficacy to address children's racial biases at post-test than parents in the control condition, $t(70) = 8.09, p < 0.001, \eta_p^2 = 0.43$.

Table 7
Responses for Parents' Action Plan.

Response Code	Example Response	Percent of Respondents
Use strategies from EmBARK	"We'll use all three strategies when reading books from the study."	84.21%
Read books and complete the next steps of EmBARK	"Read a provided book daily and use suggestion of questions for discussion."	68.42%
Use individuation	"Individualism: Prompt my child to focus on the individual instead of placing them in a group. Did you ask them if they like ___?"	42.11%
Use intergroup contact	"We can also choose to visit libraries around town that are in more diverse neighborhoods. In the summer, there are many opportunities to visit parks and splash pads that include children from diverse backgrounds."	42.11%
Use perspective taking	"As we read the books with [child's name] we will talk about individualization and perspective taking. We use perspective taking often in our parenting strategy so this will be a normal conversation for us. We don't talk about race often but more ethnicity so we will talk about how the characters in the book feel and also how this many relate to people and friends in our neighborhood."	42.11%
Assess and improve the diversity of their children's media and toys	"We will look at the books in our home library and the videos we watch and look at the race of main and supporting characters. We will follow up with a trip to the library to find more books with a more diverse 'cast' of characters."	36.84%
Monitor their child's racial bias	"Listen for bias when hearing stories of how his day at school went- then challenging bias continue to point out both discrimination on a personal and structural level."	18.42%
Discuss diversity	"Continue to talk about how we see diversity and how we are all unique and different."	15.79%
Share race-related values with their child	"We will directly discuss the importance and value of having friendships with people that are different than us and confirm he knows this is something I support and encourage. I will point out the friendships and relationships I have with people of different races and who speak other languages, that he may not know or have interacted with himself, and show him pictures of us together and explain how important they are in my life."	10.53%
Challenge stereotypes or bias in the world	"I will have a conversation with my kids about the racial diversity of the books we read and have them evaluate how diverse our book collection is."	10.53%
Help their child speak up / take action to address bias	"We can also discuss how we could be an ally in each situation: What could you say to that friend? What could you do if you saw this? etc."	5.26%

Note. Codes were not mutually exclusive – responses were coded for every theme within the codes. The "Use Strategies" code was identified when parents mentioned using strategies, broadly, as well as when parents identified any specific strategies.

Questions designed to probe parents' experiences with EmBARK

Here we provide an overview of the types of responses and examples of responses parents provided on each question designed to probe parents' experiences with EmBARK. A detailed coding scheme is available on OSF.

Action plan

We identified 11 codes for how parents planned to address race with their children in the two weeks following the training video. These responses helped us evaluate the content that parents took away from the training video. The most common responses were that parents planned to use the strategies from the EmBARK training (84.21%) and to read the books and complete the next steps of the EmBARK program (68.42%). The next most common responses were focused on using the specific strategies of individuation (42.11%), intergroup contact (42.11%), and perspective taking (42.11%), and assessing and improving diversity of their children's toys and media (36.84%). Examples of each theme and the remaining themes that were identified by more than one parent are described in [Table 7](#).

Book feedback

Parents' responses about what they liked and disliked about the books, sticky notes, and end-of-book activities were coded into 13 categories. These responses shed light on parents' liking and valuation of the practice materials and helped us assess the depth of parents' engagement with EmBARK. The most common feedback was that parents liked the strategies (58.25%), end-of-book activities (50.49%), making personal connections with the books (29.61%), and the discussion prompts (26.70%). Examples of each theme and the remaining themes that were identified by more than one parent are described in [Table 8](#).

Useful aspects of program as a whole

We identified 11 codes for things parents found particularly interesting or useful in the EmBARK training video and materials for practice. As with the book feedback, these responses helped assess parents' liking

and valuation of EmBARK and helped us assess the depth of parents' engagement with EmBARK. The most common things that parents found useful were the discussion prompts (44.74%), the books (36.84%), the training video for parents (26.32%), and the end-of-book activities (23.68%). Examples of each theme and the remaining themes that were identified by more than one parent are described in [Table 9](#).

Wished-for content in the EmBARK program

We identified 3 codes for things parents wished were included in the EmBARK program. These responses were collected to provide suggestions for future revisions and iterations of the EmBARK program. The most common things that parents wished for were guidance on more complex topics (e.g., police violence; 13.16%), guidance on how to respond in "real time" when bias occurs (10.53%), and help addressing race and racial bias beyond Black people (10.53%). Examples of each theme and the remaining themes that were identified by more than one parent are described in [Table 10](#).

Discussion

In the present research, we evaluated the EmBARK program – a novel intervention approach for engaging White parents in the United States in efforts to address race and racial biases with their White 5- to 7-year-old children. In contrast to most intervention studies that target children's racial biases directly in single-session laboratory studies ([Aboud et al., 2012](#)), the EmBARK program is designed to make conversations about race and racial bias an integral part of children's lives outside of the laboratory. To this end, EmBARK educated White parents about children's racial biases and equipped parents with evidence-based strategies to address race and racial biases with their children over the course of a few weeks. Completing all aspects of EmBARK required a substantial commitment of time and effort from parents and their children. Although parents were paid \$50 for their participation, sustained engagement with the program was certainly not a given amidst parents' myriad other demands.

Overall, our findings provide compelling proof of concept that EmBARK motivated parents to engage in efforts to address racial biases

Table 8
Responses about the Materials for Practice.

Response Code	Example Response	Percent of Respondents
Positive feedback Strategies	"The prompts for this book were a nice mix of many of the strategies this study has helped me learn about. The values sharing ones felt the most new/different for me, but I appreciated having them as examples so I can keep building up use of that strategy."	58.25%
End-of-Book Activities	"I think the activity at the end of this book has been my child's favorite so far. It really clicked with her about people being different, but then also finding similarities with her."	50.49%
Making personal connections with the books	"[Child's name] really enjoyed making connections with boys at the end of the book activity (Nolan and Joseph). He found he likes a lot of the same things and really enjoyed that activity."	29.61%
Discussion prompts ("sticky notes")	"The sticky notes were a helpful reminder of a good time to pause and elaborate on what was happening or get my daughter's reaction to what was happening in the story. It was very impactful her to think what she would do if encountered a situation like that."	26.70%
Perspective taking	"I really liked the emphasis on perspective taking and thinking about how our actions make others feel (good or bad)!"	15.05%
Standing up to bias	"I liked having him reflect in the moment and to hear his confident answers. The prompts helped us practice how to stand up for others."	15.05%
Intergroup contact	"Cute story! And good example of friendship between kids of two different races. The drawing activity was nice to have my kiddo think about himself being friends with a kid of a different race."	13.59%
Individuation	"The sticky notes about individuation and the activity seemed to make points that [child's name] understood; when I asked her why she thought we did the activity she said it shows that even when two people (Nolan and Joseph) have the same skin color there are lots of things that make them unique."	10.68%
Having language to talk about race	"This book so clearly explains the basis for different skin colors and racism in such a clear way. Definitely a great tool for explaining things in a way that can be understood and facilitate our conversations."	5.83%
Tackling race directly	"It was helpful that it explicitly discussed race, skin color, and racism. Generated really good discussions with my kids."	5.83%
Sharing race-related values	"I never thought to make sure we said out loud how important our family believes in having a diverse friend group, this was a good way to start the conversation."	2.91%
Suggestions		
Discussion prompts were awkward/unnatural	"A couple of the post-its could have been placed differently (maybe a page before or page after) as reading them exactly where they were seemed an unnatural spot to interject with observations/questions—my kid wanted to know what was about to happen in the story so didn't answer the questions as fully as if they were in a different spot in the book."	6.31%
More discussion prompts ("sticky notes")	"I think there could've been more sticky notes throughout the book to engage the child in conversations on differences and similarities between the main characters."	0.97%

Note. Codes were not mutually exclusive – responses were coded for every theme within the codes. The "Strategies" code was identified when parents mentioned using strategies, broadly, as well as when parents identified any specific strategies.

Table 9
Responses for Useful Aspects of EmBARK.

Response Code	Example Response	Percent of Respondents
Discussion prompts ("sticky notes")	"All the sticky notes were helpful in starting conversations."	44.74%
Books	"We loved every book chosen as part of the study!"	36.84%
Training video for parents	"The training video was very well done. All the examples of studies and stories of kids in the video were heartbreaking, and very compelling. It made me want to do better by my kids and avoid the negative biases present in those videos."	26.32%
End-of-Book Activities	"The activities were great for helping the lessons to be relevant and interactive."	23.68%
Strategies	"Several of the strategies felt intuitive to me, like things I try to do/think in my personal life. It was interesting to learn how they are proven strategies with specific names. I think that makes it more useful, and likely that I will be able to teach and use them with my kids."	21.05%
The opportunity itself	"Initially, it was off putting to consider talking about race in such open and direct ways with my kids—it's certainly something that my parents didn't know when I was a kid. But the training helped me understand why it's important to address it in straightforward ways, and the sticky notes and books helped give me language to do it with my kids. I feel more confident in my ability to have these conversations because of how everything was set up to help me do it in the program."	15.79%
Having the language to discuss race	"The sticky notes are really helpful because sometimes I can't think of a good questions on the spot so it was helpful to have those prepared ahead of time by the researchers."	10.53%
Handout summarizing the training video	"The handout included with books was also a nice overview of key concepts."	5.26%
Perspective-taking strategy	"What was super helpful with this program was breaking the ways to discuss it down into a few tactics (perspective taking, interconnection, etc) and the examples of things to do in those categories. That part of the parent training was really useful."	5.26%
Learning how to stand up to bias	"I think it's always helpful to have a reminder to pause and ask questions when reading—to practice empathy, the 'how would you feel' sort of questions and 'what would you do' questions are so helpful in growing self-advocacy and antiracism and showing little kids that it's important to dissent when they experience something unjust/unfair."	5.26%

Note. Codes were not mutually exclusive – responses were coded for every theme within the codes. The "Strategies" code was identified when parents mentioned using strategies, broadly, as well as when parents identified any specific strategies.

with their children over time. At the most basic level, White parents who completed the EmBARK program were highly engaged – 100% of parents completed the training video and both the pre- and post-test assessment and 95% of parents used all the practice materials (i.e., storybooks, discussion prompts, end-of-book activities). These rates of compliance stand in stark contrast to prior work in which only 10% of

White parents engaged in in-depth conversations about race when instructed to do so for a research study (Vittrup & Holden, 2011). The contrast with prior research suggests that White parents are much more likely to engage in conversations about race and racial biases with their children when given very specific guidance on how to have such conversations (see also, Perry et al., 2024). Moreover, the high rate of

Table 10
Responses for wished-for content in EmBARK.

Response Code	Example Response	Percent of Respondents
Guidance on more complex topics (e.g., police violence, history of racism, current events)	"The presence of police in the story about the black student who succeeds in standing up and checking out library books would be an opportunity to discuss the issue of police violence in a way that is appropriate for children, and alternatives to calling the police."	13.16%
Guidance on how to respond in "real time" when bias occurs	"I am not quite sure how to address a situation where my child might be unknowingly racist and the individual affected is standing right in front of us. Do I stop and educate in that moment? Is there a way to do this without making the person of color feel on display or embarrassed?"	10.53%
Addressing race and racial bias beyond Black people	"More emphasis on other groups that don't identify as Black or white."	10.53%

Note. Codes were not mutually exclusive – responses were coded for every theme within the codes.

compliance in the present study provides evidence that White parents who are concerned about children's racial biases will follow through with addressing race and racial biases with their children, even if it takes substantial time and effort.

Parents' ratings of EmBARK and open-ended responses indicate that they and their children really liked each book, the sticky notes, the end-of-book activities, and the program overall. Parents also found the program useful for talking about race and racial biases with their children. When describing the useful aspects of the program, many parents referred to the discussion prompts for how to discuss race and racial biases, the books provided with the program, the training video for parents, the end-of-book activities provided for children, and the strategies for addressing race and racial biases with their children.

In addition to liking the program and finding it useful, parents' responses indicated that they engaged deeply with the content of EmBARK. For example, when making a plan for addressing race and racial biases with their children after completing the training video, parents reported things such as using the specific strategies from the training video, improving the diversity of their immediate environment, monitoring their child's racial biases, and discussing diversity with their child. Parents' and children's liking and valuation of and engagement with the program provides hope that families would continue engaging in conversations about race and racial bias beyond the conclusion of this study. Taken as a whole, the evidence reported provides optimism that White parents can engage in deep and meaningful ways to address White children's racial biases.

Beyond program liking, valuation, and engagement, we found that parents in the EmBARK condition, compared to those in the control condition, expressed more concern about and greater self-efficacy to address children's racial biases. Increasing parents' concern about children's racial biases is encouraging given that prior research has indicated that concern about children's biases is a key predictor of White parents wanting to address their children's racial biases (Scott, Ash, et al., 2023). Improving White parents' self-efficacy to address race and racial biases with their children is similarly promising as we know White parents tend to be ill-equipped for and avoid such conversations when left to their own devices (e.g., Pahlke et al., 2012; Vittrup, 2018; Wu et al., 2022). Together, parents who have participated in EmBARK should want to—and then actually—follow through with efforts to address race and racial biases with their children.

Finally, we did not find support for several of our hypotheses. Namely, parents did not increase in awareness of children's racial biases, concern about their own children's biases, or motivation to address race with their children. The lack of support for these hypotheses stands in contrast to prior research in which an approach containing similar content as the training video did increase parents' awareness of children's racial biases, concern about their own children's racial biases, and motivation to address race with their children (Scott, Ash, et al., 2023). In this prior research, however, parents who comprised the sample were much less aware of, concerned about, and motivated to address race and racial biases with their children than those in the present sample. As such, the failure to replicate some of the prior results could be due to parents in the present study already being sufficiently aware of

children's racial biases. Likewise, parents in the current sample may be highly concerned about their children expressing bias and motivated to address race with their children, and thus unlikely to show further movement on these constructs. It is also possible that parents did not become more concerned about their own children's biases because the provided EmBARK strategies increased parents' self-efficacy that they could successfully address their children's biases. In contrast, parents in the similar prior work (Scott, Ash, et al., 2023) were not provided with strategies to address children's racial biases and thus may have been left more concerned as they did not know what to do with their newfound awareness.

Limitations and future directions

Although the present study provides a promising approach for engaging White parents in efforts to address race and racial biases with their children, it is important to note some limitations. One important limitation is that the sample in the present study was predominantly comprised of well-educated, White mothers. Though we believe a similar approach would be useful for White parents of any gender and education level, the generalizability of the current results should be approached with caution. A second limitation is that we did not directly measure parents' racial biases in the present study. Although we have a measure of parents' concern about discrimination that suggests parents in the present sample care about racial equality, we cannot make direct inferences about the implications of parents' own racial biases on reactions to the EmBARK program.

Another limitation surrounds the sample size in the present study. Based on our a priori power analysis, our study had the power to detect large effects. However, some effects in the present study may be smaller and may have been missed given the small sample. Furthermore, our measure of Concern about Children's Racial Biases had lower reliability at post-test than at pre-test. Thus, the psychometric properties of this measure, including test-retest reliability, should be examined in future research. Finally, the current study was limited in the duration of assessment. Although the present study shows sustained engagement for a few weeks, future research will have to examine whether parents would continue to engage with the bias-reduction strategies over time, whether conversations about race would continue beyond the EmBARK program, and whether EmBARK has a sustained positive impact. The long-term efficacy of this type of intervention can be determined only through assessing longitudinal outcomes.

In addition to limitations of the current study, our results raise many avenues for future research. The most important next step is evaluating whether EmBARK reduces children's racial biases or increases children's anti-racist behaviors. Evaluating these meaningful outcomes with children will serve as the ultimate test of whether parents really can serve as interventionists for addressing race and racial biases with their children. We are optimistic that EmBARK will lead to changes in children's attitudes and behaviors as they look to their parents for guidance on how to think and behave (Eccles, 2009). If parents share their values with their children, help their children engage in perspective taking, intergroup contact, and individuation, and teach their children to stand up to racial

discrimination, children will have clearer expectations regarding the value of being inclusive and guidance on anti-racist behaviors.

Beyond testing the impact of EmBARK on children, it will be important to test the boundary conditions and to evaluate if parents' values influence whether EmBARK is a useful intervention approach. Would the initial training video in EmBARK have the effect of increasing less concerned parents' awareness of children's racial biases, concern about their own children's racial biases, and motivation to address their children's racial biases? If so, would such increases be sufficient to engage less concerned parents in efforts to reduce race and racial biases with their children over time? Prior research showing that a similar approach was effective for White parents with a broader range of values (Scott, Ash, et al., 2023) suggests that the present approach should successfully engage parents who are less eager to engage from the start. Additionally, the literature suggests that the majority of White adults report non-prejudiced attitudes and values and thus should be receptive to this type of intervention (Campbell & Brauer, 2021; Devine et al., 2012; Plant & Devine, 1998). However, these questions should be evaluated directly. We suspect that it is unlikely that this type of program would be effective for the small subset of White parents who have highly racist motivations (Forscher et al., 2015).

Another area for future research focuses on the content and structure of EmBARK. In the present study, we asked parents for suggestions to improve EmBARK that can help shape future iterations and revisions of the EmBARK program. When asked what was missing, parents overwhelmingly said that they were satisfied with the program, as is. When parents did provide suggestions for additional content, they wished for content on more complex topics (e.g., systemic racism, police brutality). This suggestion is consistent with other recent research suggesting that White parents are eager to address White privilege, standing up to racism, systemic racism, and historical racism with their children (Gillen-O'Neel et al., 2022). Although one of the books that was provided in EmBARK (*Our Skin*) addresses systemic and historical racism, these were not the most central themes of the program. Future revisions of this program should consider how to more deeply incorporate these more complex race-related topics in an age-appropriate manner (for an example, see Leshin & Rhodes, 2023).

In considering the structure of the EmBARK program, future iterations could consider additional scaffolding to help keep parents engaged over time. Prior research has suggested that when people have support groups or cohorts with whom they go through an intervention, people are more likely to exhibit behavioral changes (e.g., support for parents of children with autism; Chacko et al., 2015; McCabe, 2008). This type of support could be implemented in the EmBARK program by having cohorts of parents periodically meet with each other and provide support in addressing race and racial biases with their children. Past research has also demonstrated that interventions can be more effective if people are provided with intervention boosters or additional intervention materials over time (Tolan et al., 2009). Following from this suggestion, future iterations of EmBARK could provide parents with additional scheduled trainings or materials to address race and racial biases with their children over time. Such materials could remind parents of the initial intervention content or could expand on the intervention content to address more complex or deeper issues pertaining to race and racial biases.

Two additional areas for future research focus on the potential to adapt or expand the target population for EmBARK. The current program is designed for families with 5- to 7-year-old children. Although we believe the content of the current program is best suited for children in this age range, future research should evaluate whether similar approaches could be useful for older and younger children. When considering younger children, we believe that it is first necessary to conduct more foundational research on how White parents think about and approach race and racial biases with their children as there is very little existing work on White parents' ethnic-racial socialization with children ages 0 to 4 years (for a review, see Loyd & Gaither, 2018).

Following foundational research, it will be necessary to evaluate which aspects of the EmBARK approach would be appropriate for younger children. It is likely that some of the same principles would apply like being exposed to people from different groups and being nice to people regardless of their race. However, younger children are likely to struggle more with complex discussions and more advanced strategies like standing up to bias.

As children mature and age out of the target population for EmBARK, the content of conversations will likely need to become more advanced, but the same messages can be conveyed to promote positive racial attitudes, openness to diversity, and rejection of discrimination. Some research has begun to test whether more complex conversations about racial discrimination have positive effects with older children. In the school context, the Developing Inclusive Youth program (Killen et al., 2022) shows that discussing racial discrimination with third- to fifth-grade students over time can lead to long-term changes whereby children reject discrimination, reduce racial stereotyping, and increase friendship diversity. Other correlational work has shown that when White parents have more advanced conversations about racial discrimination with older children (ages 8 to 12 years), children's racial biases decrease (Perry et al., 2024). These findings provide promising evidence that approaches similar to EmBARK could be effective with older children; however, family-based intervention studies are still needed to directly evaluate the effectiveness of parents addressing race and racial biases with older children. Ultimately implementing EmBARK with 5- to 7-year-old children and then adding family-based interventions targeting older children would create an opportunity for early conversations to lay the foundation for more complex conversations as children enter late childhood and early adolescence. Continued conversations over time will likely have the most potential for long-term changes in reducing children's racial biases and increasing anti-racist actions across development.

Finally, future work will be needed to examine whether similar approaches to EmBARK would be appropriate for families of color or what additional content could be beneficial for creating more culturally responsive interventions. For example, in families of color, messages surrounding cultural socialization and preparation for bias tend to be important components of ethnic racial socialization that are not as central for White families (Anderson & Stevenson, 2019; Hughes et al., 2006). Programs such as One Talk at a Time (Stein et al., 2021) are beginning to engage with these issues by designing interventions that are specifically tailored for Black, Latinx, and Asian American families. Additional work with families of color with children of different ages will be necessary to evaluate how effective all parents can be as interventionists in addressing race and racial biases with their children.

Conclusion

In sum, the present study provides preliminary evidence that at least some White parents are eager for direction on how to address race and racial bias with their young children, that they are willing and able to serve in the role of interventionists, and that they benefit from specific direction on how to address race and racial biases with their children. Parents embraced the goals of EmBARK, engaged in deep and meaningful conversations about race with their children, became more concerned about children's racial biases, and developed self-efficacy for addressing race and racial biases with their children, which should lead to persistence with the goals of EmBARK over time. Ultimately, an intervention that empowers White parents to continue addressing race and racial biases with their children long term could have enormous potential for reducing children's racial biases and promoting anti-racism starting in early childhood.

Author contributions

K. E. Scott conceptualized the research project with feedback from all

authors. All authors collaborated in developing the methodology. K. E. Scott, N. Huth, and E. Fukuda created the study materials with the feedback of all other authors. K. E. Scott, N. Huth, and E. Fukuda coordinated study logistics and data collection for the study. K. E. Scott conducted data processing and analyses. K. E. Scott wrote the original draft of the manuscript. K. E. Scott, K. Shutts and P. G. Devine edited the manuscript. All other authors provided feedback on the manuscript and approved of the final version. Funding was provided by K. Shutts and P. G. Devine.

Authors' notes

Preregistrations, data, measures, and supplemental analyses for this project can be found on OSF: <https://osf.io/wyazp/>. Address correspondence to Katharine E. Scott (Email: kscott@wfu.edu).

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CRedit authorship contribution statement

Katharine E. Scott: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Nicole Huth:** Writing – review & editing, Supervision, Project administration, Investigation, Conceptualization. **Eren Fukuda:** Writing – review & editing, Supervision, Project administration, Methodology, Investigation, Conceptualization. **Kristin Shutts:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Conceptualization. **Patricia G. Devine:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Conceptualization.

Data availability

We have shared the link to the data and analysis scripts in the manuscript.

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