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Can White children grow up to be Black? Children's reasoning about the stability of emotion and race

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Abstract

Recent research questions whether children conceptualize race as stable. We examined participants' beliefs about the relative stability of race and emotion, a temporary feature. Participants were White adults and children ages 5–6 and 9–10 (Study 1) and racial minority children ages 5–6 (Study 2). Participants were presented with target children who were happy or angry, and Black or White, and asked to indicate which of two adults (a race- but not emotion-match or an emotion- but not race-match) each child would grow up to be. White adults, White 9- to 10-year-olds, and racial minority 5- to 6-year-olds selected race-matches, whereas White 5- to 6-year-olds selected race- and emotion-matches equally. These data suggest that beliefs about racial stability vary by age and social group.

Keywords

U.S. children's concepts of race reveal both early awareness and developmental change. On the one hand, children often use race to make social inferences. They report that a person's race is inherited from their parents, and they use skin color to categorize and remember others (Dunham, Stepanova, Dotsch, & Todorov, 2014; Gaither et al., 2014; Hirschfeld, 1995; Roberts & Gelman, 2015). Children also use race to make inferences about a person's personality and likeability (e.g., when White children are shown faces of White children and faces of Black children, they are more likely to associate White faces with positive attributes, such as niceness) (Aboud, 2003; Baron & Banaji, 2006). On the other hand, young children often overlook race and focus on other social categories instead (e.g., Weisman, Johnson, & Shutts, 2015). They believe that gender (more than race) marks different "kinds" of people (Rhodes & Gelman, 2009), and when asked with whom they want to be friends or share preferences, they select children of the same-gender or same-accent, more than those of the same-race (Kinzler, Shutts, Dejesus, & Spelke, 2009; Shutts, Pemberton Roben, & Spelke, 2013). Children also privilege attractiveness, such that they infer that attractive people have positive traits and unattractive people have negative traits, and are less likely to make trait inferences on the basis of race (Rennels & Langlois, 2014).

Moreover, several studies question the extent to which children believe that race is stable over development – a belief that adults hold as intuitive (Bastian & Haslam, 2006). Early findings were somewhat inconsistent. Hirschfeld (1995) asked children who an adult was as a child, with race pitted against body build or occupation (e.g., for a Black adult in a police

uniform, the choices were a White child in a police officer uniform, or a Black child in plain clothing). Although by 7 years of age, children judged race to be more stable than either body build or occupation, 4-year-olds did not judge race to be more stable than body build; they judged race as more stable than occupation only. Furthermore, young children's use of race on the occupation trials may have reflected a lack of attention to occupation rather than an affirmative judgment of the stability of race, as there were no control trials to test children's awareness of each dimension individually. Finally, because the participant sample was predominantly White, and the test stimuli were simplified line drawings, the data do not speak to how diverse samples conceptualize racial stability when confronted with real-world faces (with both within-race and between-race variation).

Pauker, Ambady, and Apfelbaum (2010) examined children's reasoning about racial stability using photographs of real-world individuals. They provided a three-item test, asking what a child would look like as an adult (e.g., Black child matched with Black adult and White adult choices), what an adult looked like as a child (e.g., White adult matched with Black child and White child choices), and whether someone could change their skin color if they really wanted to, and why. Children who answered all three questions as stable and verbalized essentialist reasoning (e.g., "He can't change. You're born one way and you can't change after that"; p. 1804) were coded as racially essentialist. On this measure, most of the younger children (3–6 years of age) did not show essentialist beliefs about race. The implications for children's understanding of racial stability are unclear. On the one hand, children's tendency to view race as stable by age 6 years may have reflected the fact that race was not pitted against any other dimension. On the other hand, younger children's difficulty with explaining race constancy may have been amplified by the verbal demands of the task, thus leaving open how they would perform on a less demanding measure. Finally, Pauker et al (2010), like Hirschfeld (1995), focused on a predominantly White sample, thereby leaving unclear how diverse samples would perform.

Kinzler and Dautel (2012) showed White and Black children a series of triads consisting of one child and two adults: one who matched the child in race but not language (race match) and one who matched the child in language but not race (language match). Each item (image plus voice clip) was presented individually, and hidden behind a screen before and after presentation. This design feature was necessary so that children's access to the verbal and visual information was controlled over the two dimensions (race vs. language). On each trial, children were asked to identify the adult that the target child would grow up to be. White 9- to 10-year-olds and Black 5- to 6-year-olds chose the race-match, but White 5- to 6-year-olds chose the language-match. These results suggest that young White 5- to 6-year-olds do not consistently conceptualize race as stable, and that concepts of racial stability develop differently across social groups. However, although these results demonstrate the relative importance of language as a significant social category for young White children, what they say about race concepts is less clear. For young White children, language is often conceptualized as a salient, informative, stable, and inherited social category (Hirschfeld & Gelman, 1997; Kinzler, Dupoux, & Spelke, 2007). When language and race are placed in a head-to-head comparison, young White children may reason that language is more stable. However, it is possible that if race were pitted against a category other than language, they might view race as more stable. Also, because the test images were not visible during the

test question (i.e., race was occluded during test and children never saw more than one face at a time), this raises questions about whether attention or memory processes contributed to young White children's difficulty, rather than beliefs about racial stability per se.

The present studies

Based on the research summarized above, it is unclear when children of different racial backgrounds first believe that race is stable over time. On the one hand, research reporting that young children treat race as stable may have overestimated children's ability by providing a contrast dimension (occupation) that was insufficiently salient, and by depicting race as overly homogeneous across individuals by using line drawings (Hirschfeld, 1995). On the other hand, research reporting that young children treat race as non-stable may have underestimated children's ability by providing a contrast dimension (language) that is itself viewed to be stable over time, by not permitting children to view the images under consideration simultaneously (Kinzler & Dautel, 2012), or by requiring explicit verbal justifications (Pauker et al., 2010).

Studying further children's beliefs about the stability of race has important theoretical implications for understanding children's race-based concepts. When an identity is understood as stable, it may be viewed as more central and may therefore powerfully predict children's expectations about individual properties (Quintana, 1998; Ruble et al., 2007). Because young children use race to make inferences about social relationships (e.g., that a Black child is more likely to befriend another Black child than a White child), and are less likely to use race to make inferences about individual properties (e.g., that a Black child will enjoy the same activities as another Black child) (Shutts et al., 2013), it follows that children may not have yet formed the belief that race is stable (e.g., that a Black child will grow up to be a Black adult). Indeed, Rhodes (2013, 2014) recently proposed that children's race-based concepts are rooted in beliefs about social obligations and coalitions, rather than beliefs about natural kinds (i.e., that they are inherited, stable, and inductively potent). Thus, examining this issue has the potential to clarify the ways in which children do and don't conceptualize race in an adult-like manner, and to reveal how children use race to reason about individuals.

We propose that in order to provide a clear test of the stability of race per se, what is needed is a comparison dimension that is salient yet non-stable. Here, we pitted race against the temporary property of emotional expression. Emotional expressions are powerful social cues that provide insight into others' feelings and internal states, and young children are highly skilled at perceiving and interpreting them (Widen & Russell, 2003). At the same time, even preschool-aged children understand that experiences and environmental input can change someone's emotions (Flavell, Flavell, & Green, 2001; Lagattuta & Wellman, 2001; Wellman, Harris, Banerjee, & Sinclair, 1995). If children believe that race is stable, they should judge that it is more stable than a feature that is salient but known to be non-stable.

We also addressed some of the other limitations of previous research. First, to the best of our knowledge, only Kinzler and Dautel (2012) examined how racial majority and racial minority children from the same region make racial stability judgments. Such evidence is

critical not only in order to ensure greater generalizability to diverse populations, but also to shed light on possible mechanisms to account for how racial stability concepts develop. For example, if racial minority children develop concepts of racial stability earlier than White children, this would imply that these concepts are informed by particular life experiences, and not simply age per se. For instance, racial minority children may be more likely to experience racial discrimination, or may be more likely to receive race related messages from their parents, which could ultimately facilitate earlier sensitivity to race concepts. We therefore examined performance of both White and racial minority children. Second, as noted by Kinzler and Dautel (2012), differences between White and racial minority children may be related to experiences with parental racial socialization, such that parents of racial minority children may discuss race-based concepts and experiences with their children more frequently than parents of White children (Hughes, 2003; Pahlke, Bigler, & Suizzo, 2012). However, no studies have empirically tested how parental racial socialization relates to children's racial stability concepts. We therefore included a measure of parental racial socialization. Third, we did not rely on children's verbalized reasoning, which in Pauker et al. (2010) could have underestimated young children's concepts. Fourth, images consisted of real-world faces instead of line drawings (Hirschfeld, 1995), thereby presenting children with real-world variability in faces, as well as making our findings more generalizable to real-world people. Fourth, all test images remained present during each trial, thereby giving children visual access to all potential race- and emotion-based matches.

When examining children's reasoning about the stability of emotion and race, two competing predictions are implied by previous research. Specifically, young White children may not reason that race is stable (as implied by the prior research comparing race and language) and may therefore reason that emotions are at least as stable as race. Alternatively, young White children may in fact reason that race is stable when the competing feature is clearly non-stable (i.e., emotion). Furthermore, racial minority children, like older White children and adults, may reason that race is more stable than emotion due to their experiences as racial minorities or with parental racial socialization, which highlight race as an important and informative category (see Kinzler & Dautel, 2012 for a discussion).

Following the method developed by Kinzler and Dautel (2012), participants were shown a target child who was Black or White, and happy or angry. Then, they were shown two adults: one who matched the target's race but not emotion, and one who matched the target's emotion but not race. On eight trials, participants were asked to identify which adult the target child would grow up to be. Participants who conceptualize race as stable across the lifespan should choose the adult who matches the target child in race but not in emotion. Study 1 assessed U.S. White children and adults, and Study 2 assessed U.S. racial minority children.

STUDY 1

Method

Participants—This study included three groups of White U.S. participants: 5- to 6-year-olds ($N = 26$, 58% female; M age = 5.46, range = 5.10–6.99), 9- to 10-year-olds ($N = 24$, 66% female, M age = 9.46, range = 9.07–10.87), and adults ($N = 28$, 54% female; M age =

32, range = 18–70). The sample size was based on that of Kinzler and Dautel (2012). An additional 127 adults and 44 5- to 6-year-olds (M age = 6.01, range = 5.11–6.99) participated in pretesting of the materials. Children were recruited in the Midwestern U.S. at a museum affiliated with a university lab. Adults were recruited online via Amazon's Mturk. Children's race was provided by their parents and adults provided their own race.

Materials—The stimuli consisted of eight child faces and 16 adult faces (50% male/female; 50% Black/White; 50% angry/happy). Adult images were drawn from NimStim Set (Tottenham et al., 2009) and child images were drawn from the Child Affective Facial Expression Set (Lobue & Thrasher, 2014), which are fully available at databrary.org. On each of eight trials, one child and two adult faces of the same gender were displayed on a computer using PowerPoint. For each trial, participants saw one child and two adults: one who matched the child in emotion but not race, and another who matched the child in race but not emotion (e.g., a happy Black child paired with an angry Black adult and a happy White adult). All possible pairings of emotion and race were presented; gender was always kept constant within a set. Each target was randomly assigned one of two pairs of same-gender adult faces (i.e., one angry White adult and one happy Black adult; one angry Black adult and one happy White adult), counterbalanced across participants. The lateral position of the adult faces was counterbalanced within and across participants. Trials were presented in random order.

Pretesting: To ensure that all images were judged to depict Black or White, or happy or angry people, they were pretested with a sample of 127 adults. For each image, adults were asked either, "What is the racial background of this person?" (response options: Black, White, Black and White, or other) or, "What emotion is this person expressing?" (response options: happy, angry, other, unclear). The selected images were categorized as intended (Black or White, happy or angry) at least 90% of the time. In order to ensure that matches could not be made on hair or eye color alone, all selected images had dark hair and dark eyes. To further validate the images for use in this paradigm (e.g., that participants would treat the adult images as plausible adult-versions of the child images) we pretested emotion ($N = 23$) and race ($N = 21$) separately with 44 White 5- to 6-year-olds. For each, participants viewed a child and were asked to select which of two adults the child would grow up to be. Triads varied along a single dimension, either emotion (e.g., a happy child with a happy versus an angry adult, all the same race) or race (e.g., a Black child with a Black versus a White adult, all the same emotion). One-sample t-tests revealed that when emotion and race were tested separately, children attended to emotion ($M = 6.39$ out of 8, $SE = .33$), $t(22) = 7.36$, $p < .001$, and race ($M = 7.38$ out of 8, $SE = .19$), $t(20) = 17.92$, $p < .001$, at above chance rates (i.e., 4).

Procedure—In order to familiarize participants with the categorization task and to ensure that they could engage in growth-based reasoning, they first participated in two practice trials depicting cartoon characters with differently shaped schematic bodies (i.e., square person, circle person). For each practice trial, children were shown a cartoon child and two cartoon adults (e.g., circle child, circle adult, triangle adult) and were asked to identify which adult the child would grow up to be. All characters in the practice trials were

uniformly red in color and had no facial features (thereby preventing color-based or emotion-based reasoning). Feedback was provided only for children who made an error in the practice trials ($N = 5$), and the experimenter only proceeded to the test trials after successful completion of the practice trials. On the eight test trials, the experimenter revealed a target child, pointed to the screen, and said, "Here is a child (pointing). When this child grows up, which grown-up will it be?" The experimenter then revealed two adults and said (while pointing), "Will this child grow up to be this grown-up or this grown-up?" All three images (i.e., target picture and response options) remained visible when participants made their decision.

Parental Racial Socialization: Following the task, parents were given a follow-up survey adapted from previous research (O'Connor et al., 2008) which asked how often they discussed race-related issues with their child (e.g., how often do you identify and discuss people by race: 0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *often*, 4 = *very often*) (α = .83) (see Appendix A for all items).

Results

All results are depicted in Figure 1. There were no effects for target's emotion, target's race, target's gender, or participant gender, so the data were collapsed over these variables. A one-way ANOVA with age group (3: White 5- to 6-year-olds, White 9- to 10-year-olds, and White adults) and the number of same-race matches as the dependent variable yielded a significant effect, $F(2, 75) = 15.48$, $p < .001$, $\eta_p^2 = .29$. Pairwise comparisons indicated that White 5- to 6-year-olds ($M = 4.42$, $SE = .44$) were significantly less likely than White 9- to 10-year-olds ($M = 6.75$, $SE = .46$) and adults ($M = 7.75$, $SE = .42$) to make same-race matches ($ps < .001$). Responses for White 9- to 10-year-olds and adults were not significantly different from one another ($p = .34$). One-sample t-tests indicated further that White 5- to 6-year-olds made same-race matches at chance levels (i.e., 4), $t(25) = .72$, $p = .48$, unlike White 9- to 10-year-olds, $t(23) = 5.99$, $p < .001$, and adults, $t(30) = 19.04$, $p < .001$, both of which were significantly above chance. A series of non-parametric Wilcoxon signed-ranks tests confirmed these tests further. In the group of White 5- to 6-year-olds, 15 children made more same-emotion matches, 9 children made more same-race matches, and 2 children made same-emotion and same-race matches at equal rates ($Z = -.56$, $p = .57$). For White 9- to 10-year-olds, 19 children made more same-race matches, 4 children made more same-emotion matches, and 1 child made same-emotion and same-race matches at equal rates ($Z = -4.01$, $p < .001$). For adults, 27 made more same-race matches and 1 made more same-emotion matches ($Z = -5.11$, $p < .001$).

Parental Racial Socialization—On average, White 5- to 6- year-olds ($M = 2.47$, $SD = .68$) received fewer parental racial socialization messages than 9- to 10-year-olds ($M = 2.91$, $SD = .43$) ($p = .014$). For White 5- to 6-year-olds (but not 9- to 10-year-olds), higher rates of racial socialization messages were marginally correlated with fewer race-based matches ($r = -.32$, $p = .061$).

Discussion

When each variable was tested in isolation, children attended to both emotion and race. However, when emotion and race were in conflict, White 5- to 6-year-olds did not treat race as more (or less) stable than emotion. In contrast, White 9- to 10-year-olds and adults chose the race match. These data demonstrate that racial stability judgments develop with age (see General Discussion for thoughts on the parental socialization data).

STUDY 2

Study 2 extends the study of racial stability judgments to a sample of racial minority children. Prior research found that unlike White 5- to 6-year-olds, same-aged Black children reasoned that race was more stable than language (Kinzler & Dautel, 2012). We therefore hypothesized that racial minority 5- to 6-year-olds may reason that race is more stable than emotion. We did not attempt to collect data from racial minority 9- to 10-year-olds, given our prediction that younger racial minority 5- to 6-year-olds would already conceptualize race as stable. We assessed both Black and non-Black racial minorities because previous work indicates that racial minority children, by virtue of their minority status, think about racial categories sooner than White children (e.g., Bigler & Liben, 2006; Quintana, 1994; 1998).

Method

Participants—This study included 24 racial minority 5- to 6-year-olds (50% female; M age = 6.01, range = 5.00–6.92; 18 = Black, 3 = Asian, 2 = Latino, 1 = multiracial) who were recruited from the same sources as those in Study 1. Children's race was provided by their parents.

Procedure—The materials, design, and procedure paralleled those in Study 1.

Results

There were no effects for target's emotion, target's race, target's gender, or participant gender, so the data were collapsed over these variables. A one-sample t-test revealed that racial minority 5- to 6-year-olds made same-race matches at above-chance levels (i.e., 4), $t(23) = 4.71$, $p < .001$ ($M = 6.08$, $SE = .44$). A non-parametric Wilcoxon signed-ranks test indicated that 18 children made more same-race matches, 3 children made more same-emotion matches, and 3 children made same-race and same-emotion matches at equal rates ($Z = −3.39$, $p = .001$).

Parental Racial Socialization—On average, parents reported speaking to their children about race sometimes ($M = 2.67$, $SD = .92$), but experiences with parental racial socialization did not correlate with children's responses ($r = −.06$, $p = .41$).

Cross-study Comparison—We combined the 5- to 6-year-old data from both studies and conducted an independent samples t-test with the number of same-race matches as the dependent variable comparing the White 5- to 6-year-olds from Study 1 to the racial minority 5- to 6-year-olds from Study 2. Racial minority 5- to 6-year-olds were more likely

to make same-race matches than White 5- to 6-year-olds $t(48) = -2.23$, $p = .03$. Experiences with parental racial socialization did not differ significantly between racial minority and White 5- to 6-year-olds. All results held when looking at only Black children.

Discussion

Racial minority 5- to 6-year-olds reasoned that race was more stable than emotion, thus showing a pattern of results that differed from the White 5- to 6-year-olds in Study 1. This pattern demonstrates that racial minority children reason about race as stable at an earlier age than White children, and is consistent with Kinzler and Dautel (2012), who found that Black 5- to 6-year-olds, but not same-aged White children, reasoned that race was more stable than language.

GENERAL DISCUSSION

In two studies, we presented participants, both White and racial minority, with a categorization task in which they predicted whether a child would grow up to have the same emotion or the same race. In Study 1, we focused on White participants and found developmental change: adults and 9- to 10-year-olds reasoned that a person's race was more stable than their emotion, whereas 5- to 6-year-olds did not reason that a person's race was more (or less) stable than their emotion. Study 2 revealed that 5- to 6-year-old racial minority children, like White adults and 9- to 10-year-olds, reasoned that race was more stable. These studies provide new evidence demonstrating that beliefs concerning the stability of race develop throughout early childhood at different rates across social groups.

These findings align with previous research showing that between the ages of 7 and 10, children often reason that racial categories are not only about superficial features such as skin tone (Dunham et al., 2014), but that they are also indicative of characteristics that are permanent and constant (Hirschfeld, 1995; Quintana, 1998). Moreover, these data contribute to a growing body of research demonstrating that in the presence of competing information (e.g., gender, attractiveness, accent, coalitions), younger White children often do not privilege race (e.g., Rennels & Langlois, 2014; Rhodes, 2013). Critically, these data suggest that even when the competing feature is highly salient but understood to be non-stable, young White children do not conceptualize race as stable.

Unexpectedly, White 5- to 6-year-olds' increased experiences with parental racial socialization showed a tendency to correlate with *fewer* race-matches. Although counterintuitive to the idea that increased experiences with race would promote the belief that race is stable, this finding may reflect the content of the socialization messages that White 5- to 6-year-olds received. Within White families, racial socialization messages often deemphasize race and emphasize colorblindness (Pahlke et al., 2012), which could encourage the belief that race is not stable. Yet, because we did not explore the content of the messages and because the relation was marginally significant, we encourage additional research and a cautious read of these data.

Racial minority 5- to 6-year-olds, recruited from the same region as the White 5- to 6-year-olds in Study 1, reasoned that race was more stable than emotion. These findings highlight

the role that group membership plays in children's reasoning about race, and contribute to the literature showing that racial minority children think about race differently from racial majority children (Aboud, 2003; Bar-haim, Ziv, Lamy, & Hodes, 2006). Kinzler and Dautel (2012) speculated that experiences with parental racial socialization may facilitate racial minority children's stability judgments, though we found no evidence for this in the present data. What else then fostered in racial minority children the belief that race was more stable than emotion? We speculate that a variety of experiential factors (e.g., experiences with discrimination, minority status) may have played an important role (see Quintana, 1994; 1998), and we look forward to additional work to examine these questions.

Future research should explore how responses vary by emotion type. Although we did not find an interaction between target race and emotion, participants who are aware of negative stereotypes about Black people may show increased race-based reasoning when they see a face of an angry Black person. Future research should also include multiracial children (e.g., children with one Black parent and one White parent), who have been shown to reason about race differently than monoracial children (Gaither, 2015; Roberts & Gelman, 2016). One prediction is that relatively early in development, multiracial children may reason that race is stable because of their exposure to diverse people. However, an alternative prediction is that because of their exposure to diverse people, multiracial children may reason that they could grow up to be like either or both of their parents, and therefore conceptualize race as non-stable. More research is certainly needed in order to understand more fully how these concepts emerge in development.

Nonetheless, the present studies document variation in children's racial stability judgments as a function of age and group membership, and add to the literature on cultural and contextual influences on concepts of race (e.g., Astuti, Solomon, & Carey, 2004; Diesendruck, Goldfein-Elbaz, Rhodes, Gelman, & Neumark, 2013; Rhodes & Gelman, 2009). The present findings also have important theoretical implications for understanding the development of children's beliefs about race and racial essentialism. On the one hand, previous research suggests that young children, like adults, are aware of race and use race-based information to make social inferences (e.g., Baron & Banaji, 2006; Hirschfeld, 1995; Shutts et al., 2013). Yet other data, including those presented here, suggest that the meaning of race to children--including, for example, the belief that race is stable across the lifespan--develops with experience, and that racial essentialism may not be consistently present during the early years (in contrast to essentialism of natural kinds, e.g., Astuti et al., 2004; Gelman, 2003; Rhodes & Gelman, 2009). In other words, although young children in the U.S. often use racial categories to make inferences about social groups, racial-majority children lack strong intuitions regarding how those categories are structured, and do not yet use those categories to constrain how they think about an individual's growth across the lifespan.

Acknowledgments

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Appendix A

Parental Racial Socialization Measure

People differ regarding how often they talk about race with their child. Please indicate how often the following occurs in your home	
1	We discuss racial issues or incidents
2	We discuss racism
3	We discuss differences between racial groups
4	We identify and discuss people by race
5	We include our child in discussions of racial issues or incidents
6	We include our child in discussions of racism
7	We avoid discussing racial issues or incidents in front of our child (reverse coded)
8	We avoid discussing racism in front of our child (reverse coded)

Note. α = .83

Research Highlights

1. Young White children do not expect race to be stable from childhood to adulthood – that is, they reason that race is not more (or less) stable than emotional expression.

2. In contrast, racial minority children, like older White children and adults, reason that race is stable over time.

3. These studies show that children's concepts of race vary by age and social group membership.
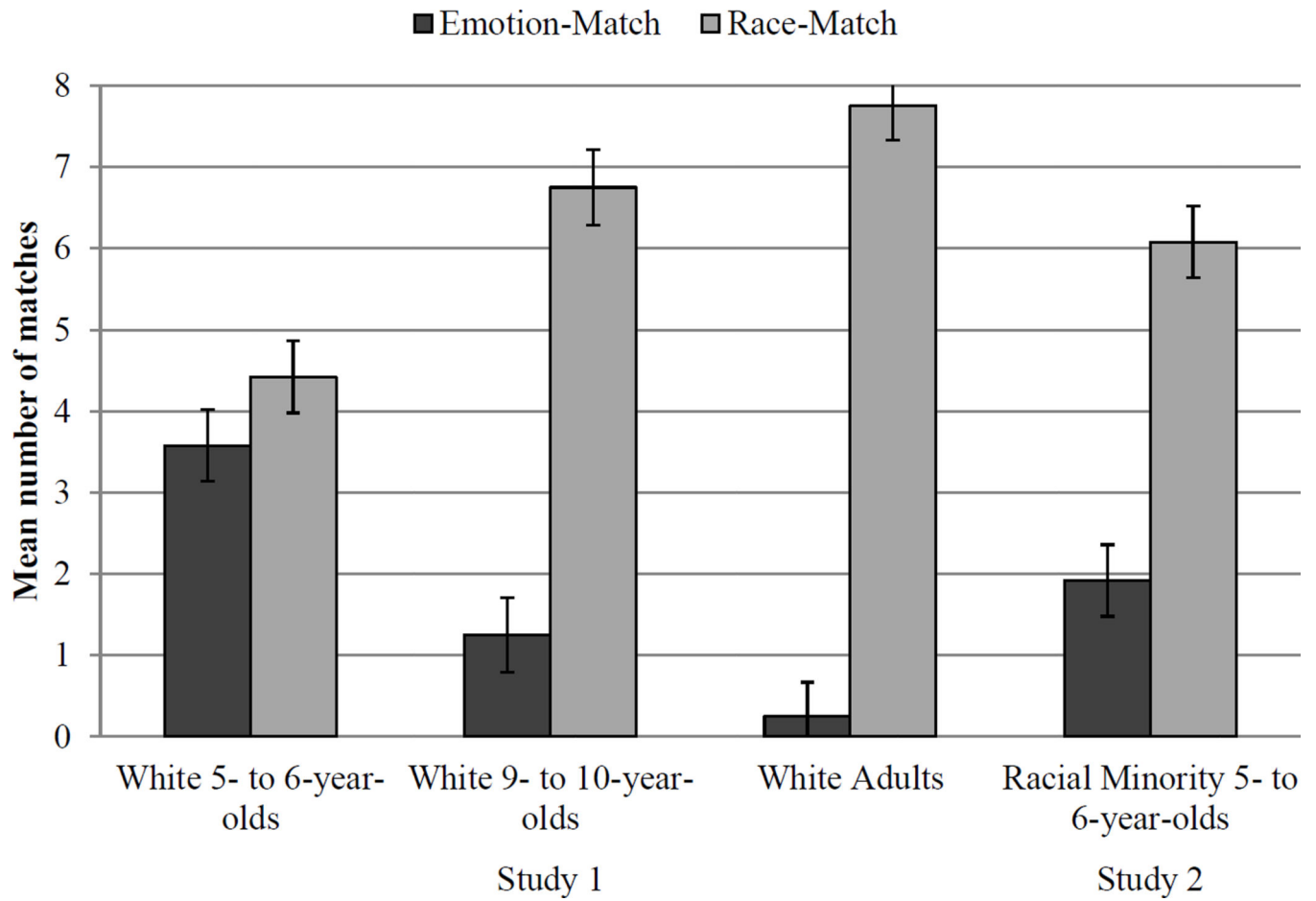
Figure 1.
Mean frequencies (out of 8) for participants' choice of emotion- and race-matches. Bars depict standard error.