Race Essentialism and Social Contextual Differences in Children's Racial Stereotyping

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The authors explored the differential emergence and correlates of racial stereotyping in 136 children ages 4–11 years across two broad social contexts: Hawai'i and Massachusetts. Children completed measures assessing race salience, race essentialism, and in-group and out-group stereotyping. Results indicated that the type of racial stereotypes emerging with age was context dependent. In both contexts in-group stereotyping increased with age. In contrast, there was only an age-related increase in out-group stereotyping in Massachusetts. Older children in Massachusetts reported more essentialist thinking (i.e., believing that race cannot change) than their counterparts in Hawai'i, which explained their higher out-group stereotyping. These results provide insight into the factors that may shape contextual differences in racial stereotyping.

Historical, cultural, and interpersonal contexts shape the way people think and also should shape shared knowledge, such as stereotypes. One of the most popular and intuitive explanations for how stereotypes are acquired is through sociocultural learning (Allport, 1954; Cameron, Alvarez, Ruble, & Fuligni, 2001), which postulates that children pick up the beliefs available in their cultural milieu. Research exploring sociocultural influences on racial stereotyping and attitudes in children has largely concentrated on the role of parents, school, or the media (e.g., Aboud & Doyle, 1996; Castelli, Zogmaister, & Tomelleri, 2009; Katz, 2003; McGlothlin & Killen, 2010). However, a child's broader social context, reflecting such factors as sociopolitical history, demographic makeup, or local norms, should also impact what stereotypes are available and functionally important in that particular context (Bar-Tal, 1997; Bennett et al., 2004). We explored herein how two such social contexts—Hawai'i and Massachusetts, both within the United States, but drastically different in their history, demographics, and norms—may differentially shape children's racial cognitions and stereotypes.

Specifically, as children age, the considerable racial diversity present in Hawai'i may foster less essentialist thinking about race as compared to more racially homogenous contexts (Massachusetts), and these contextual differences in racial cognition may subsequently affect the type of racial stereotyping that emerges in each context.

Race Salience, Race Essentialism, and Racial Stereotyping

Numerous factors contribute to the emergence of racial stereotyping in children, but here we concentrate on two social-cognitive components: race salience and race essentialism. Although these social-cognitive underpinnings predict the emergence of racial stereotypes (Bigler & Liben, 2007; Pauker, Ambady, & Apfelbaum, 2010), the meaning imbued to these basic processes should depend on environmental input.

Race Salience

According to developmental intergroup theory (Bigler & Liben, 2007), race salience—the tendency for children to categorize others by race—is an

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important precursor to the acquisition of racial stereotypes (Bigler & Liben, 2007; Pauker et al., 2010). Race often becomes psychologically salient when its importance is reinforced by cues such as explicit labeling or implicit use of race (Bigler & Liben, 2007). Thus, the salience of race for children is likely guided by their environmental contexts where frequency of explicit labeling and implicit use of race vary. For example, the frequent use of race during daily interactions (e.g., explicit labeling) would suggest that race is highly salient in the context of Hawai'i (Bochner & Ohsako, 1977). Although race may not often be explicitly labeled in Massachusetts due to prevalent color-blind social norms (e.g., Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008), it is instead implicitly used through the perpetuation of racially segregated spaces, such as schools (e.g., Horowitz, 2014), which also reinforces the psychological salience of race (Bigler & Liben, 2007). Thus, children in both Hawai'i and Massachusetts are likely to demonstrate comparable race salience.

Race Essentialism

The extent to which children stereotype outgroups may depend not only on the extent to which race is salient, but also their conceptualizations about the meaning of race. Like young scientists, children create naïve lay theories to help them understand their social world. One such lay theory is essentialist thinking about race—the belief that racial-group membership is fixed and reflects an underlying essence shared by like individuals (Gelman, 2004). Individuals who hold essentialist beliefs view a category as more meaningful, predictive, and indicative of fundamental differences. This view then provides an interpretive framework for all other behaviors and attributes associated with the category. For example, essentialist thinking in children is associated with an exaggeration of differences between groups and more explanations for group-relevant behavior to stable internal causes rather than external situational causes (Levy & Dweck, 1999). Research suggests that people who essentialize race view race as a more meaningful social category: They construe racial groups as fundamentally different and believe that surface-level attributes (e.g., skin color) correspond to deeper, underlying differences (see Prentice & Miller, 2007).

Essentialist thinking has been shown to play a specific role in stereotyping, particularly out-group stereotyping for children and adults (e.g., Levy & Dweck, 1999; Levy, Stroessner, & Dweck, 1998;

Prentice & Miller, 2007; Williams & Eberhardt, 2008). Most often, measures of essentialism focus on participants' views about others or racial groups more broadly. Because of the focus on judgments about others, combined with its hypothesized role in maintaining the social hierarchy (e.g., Yzerbyt, Rocher, & Schadron, 1997), race essentialism should relate more strongly to out-group than in-group stereotyping. Supporting this, Pauker et al. (2010) found that in a sample of primarily White children, beliefs about the immutability of race predicted increased *out-group*, but not in-group, stereotyping.

There is some debate as to when children's essentialist thinking about race emerges. Seminal research conducted by Hirschfeld (1995) suggests that children have a biologically grounded, adult-like theory of race as early as preschool, around 4 years of age. However, recent research has found the emergence of race essentialism varies with the task (e.g., Giménez & Harris, 2002; Kinzler & Dautel, 2012), the component of essentialism assessed (e.g., immutability, natural kind), and the cultural context (Diesendruck, Goldfein-Elbaz, Rhodes, Gelman, & Neumark, 2013; Rhodes & Gelman, 2009). Tasks that incorporate explanations of responses or counter suggestions find race essentialism emerges later in development (after 6 years of age; Gaither et al., 2014; Giménez & Harris, 2002; Pauker et al., 2010; Rhodes & Gelman, 2009). Recent work also highlights variability in children's tendency to essentialize race or ethnicity: In contexts where children are exposed to racial (Rhodes & Gelman, 2009) and ethnic (Deeb, Segall, Birnbaum, Ben-Eliyahu, & Diesendruck, 2011) diversity, essentialism decreases with age as children acculturate to their social environment. Thus, racially diverse contexts like Hawai'i may support less essentialism with age, which should result in less out-group stereotyping. In contrast, more homogeneous contexts like Massachusetts may encourage children to perceive racial categories as more distinct and rigid with age, which should result in more out-group stereotyping. Therefore, both a child's geographic context and lay theories about race in that context should jointly shape their racial stereotypes as children age.

The Present Research

The present investigation had two primary aims. First, we examined the differential emergence of children's racial stereotypes across two broad social contexts in the United States: Hawai'i and

Massachusetts. Second, we explored whether each context may foster different patterns of racial cognition across development that may explain potential geographic differences in racial stereotyping. To the best of our knowledge, this is the first study to examine the relation between race essentialism and differences in racial stereotyping in two distinct social contexts.

Understanding the Context

Hawai'i has a unique history that informs its present intergroup context. The large-scale agricultural industry prevalent in Hawai'i from the 1850s to 1950s attracted immigrants from a variety of countries, including Japan, China, Okinawa, Korea, Puerto Rico, and the Philippines, to work on the plantations (Grant & Ogawa, 1993). This created a multiethnic society where intergroup interaction was highly prevalent and contributed to the current demographic situation where there is not a clear racial or ethnic group in the numerical majority. Hawai'i is currently the *only* state with a non-White majority. In Hawai'i, Asian individuals make up a sizable (but not overwhelming) majority (38.6%), only 24.7% of the population is White, and 23.6% of residents identify as multiracial, a proportion vastly in excess of that found in other states. The next largest group is Native Hawaiian and Pacific Islanders (10.0%), and Black individuals make up a very small sliver of the population (1.6%). As a comparison, in Massachusetts, Whites make up the majority (80.4%) and other groups are in the minority (including 6.6% Black, 5.3% Asian, and only 2.6% multiracial individuals; U.S. Bureau of the Census, 2010).

Although we have no direct measure of the precise features of the social context that may shape children's stereotyping, we examined differences in children's racial cognitions to provide insight into how the social context may affect children's thinking. Several recent studies with adults provide indirect evidence that the social context of Hawai'i shapes racial cognition. For example, in a longitudinal study, White adults who moved from a majority White environment to Hawai'i demonstrated decreased levels of race essentialism over the course of 9 months, and this reduction in race essentialism was linked to increased exposure to racial diversity (Carpinella, Pauker, Meyers, Young, & Sanchez, 2015). The unique demographic makeup of Hawai'i, specifically the exposure to a large multiracial population, may encourage a less essentialized view of race (Carpinella et al., 2015; Sanchez, Young, & Pauker, 2015).

Racial Diversity and Stereotyping

Contextual differences in racial diversity between Hawai'i and Massachusetts could affect the emergence of racial stereotyping in a number of ways. First, increased intergroup contact (higher levels in Hawai'i) is important for reducing prejudice (Pettigrew & Tropp, 2006; Raabe & Beelman, 2011). Although the beneficial effects of contact have been shown to be stronger for affective indicators of prejudice, such as emotions or favorability, compared to cognitive indicators, such as stereotypes (Tropp & Pettigrew, 2005), it is possible that racial diversity could affect the emergence of children's racial stereotyping through reducing reliance on race essentialism (e.g., Carpinella et al., 2015). Second, children may be exposed to different sets of racial stereotypes based on the different predominant minority groups across social contexts. Third, the racial diversity in Hawai'i could result in a sample dominated by minority group members. Racial and ethnic minority children tend to show weaker ingroup preferences (e.g., Aboud, 1988; Aboud & Skerry, 1984; Ramsey & Myers, 1990; Spencer, 1984) and intergroup bias, including implicit and indirect bias (e.g., McGlothlin & Killen, 2010; Newheiser & Olson, 2012). This asymmetry in racial bias (i.e., White majority group children display greater bias than racial and ethnic minority group children) has been convincingly linked to arguments that children attend to social status when making race-based judgments (e.g., Dunham, Newheiser, Hoosain, Merrill, & Olson, 2014; Olson, Shutts, Kinzler, & Weisman, 2012; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011).

Thus, both participants' position in the group-based hierarchy in a particular social context, as well as the status position of the group(s) about which they are making a judgment, will potentially differentially affect racial stereotyping for racial majority and minority participants. For example, in Massachusetts, White majority children who are the high-status group are more aware of out-group-relevant stereotypes with age (i.e., stereotypes about lower status groups; Pauker et al., 2010), which could serve a hierarchy legitimizing function (Yzerbyt et al., 1997). The more diverse sample in Hawai'i (where Asians are in the numeric majority and Whites are in the numeric minority) could lead to differences in stereotyping because of the relative social status position of the participants. Specifically, unlike other studies that have examined the interaction of status and numerical minority or majority status (e.g., Shutts et al., 2011), Whites do

not belong to a clear high-status group in Hawai'i. The three largest racial groups in Hawai'i—Whites, Asians (specifically, Japanese and Chinese Americans), and mutiracials—all share the high-status position in Hawai'i based on occupation, income, and educational attainment (Okamura, 2008). The more nuanced racial hierarchy with multiple high-status groups leads to competing predictions about the emergence of racial stereotyping with age in Hawai'i: (a) group members may only exhibit increased stereotyping about groups clearly lower in the social hierarchy (i.e., Black individuals), or (b) children may exhibit generally less pronounced out-group stereotyping as they may be less inclined to protect the established hierarchy.

Age and Social-Cognitive Predictions

Because children start to demonstrate ethnic and racial awareness as young as 3 or 4 years of age (e.g., Ruble et al., 2004) and reliably report a number of stereotypes by early adolescence (e.g., Rowley, Kurtz-Costes, Mistry, & Feagans, 2007), we chose to investigate racial stereotyping in children 4–11 years of age. Our main interest was comparing the differential emergence of in-group and out-group racial stereotyping across the two social contexts. Because stereotypes are thought to be acquired, at least in part through social learning (Allport, 1954; Cameron et al., 2001), regardless of the context, we predicted that older children would exhibit more in-group and out-group stereotyping. However, because Massachusetts is more racially homogeneous, we expected children in this context to exhibit more out-group stereotyping with age compared to those in the more diverse context of Hawai'i. Thus, we expected age to be positively related to in-group stereotyping and out-group stereotyping but that social context would moderate the relation between age and out-group stereotyping.

We also explored whether two social-cognitive components, race salience and race essentialism, differentially predicted what stereotypes emerged in Hawai'i and Massachusetts. We used a classic picture sorting task to assess children's spontaneous use of race as a sorting dimension, which served as our measure of race salience. We predicted that race would be equally salient in Hawai'i and Massachusetts and that the salience of race would increase with age. For race essentialism, we utilized a task that measured the perceived inalterability of race over time. We expected that the more diverse and multiracial context of Hawai'i would promote a more fluid, less essentialist view of race as children got older (Diesendruck et al., 2013; Sanchez et al., 2015) compared to the more homogenous context of Massachusetts, which may explain differences in in-group versus out-group stereotyping displayed in the two social contexts. Thus, we expected the effect of age on race essentialism to interact with social context, and that these contextual differences in essentialism with age would mediate the effect of context on out-group stereotyping.

Method

Participants and Design

The sample consisted of children 4–11 years of age, with 68 children from Hawai'i (37 boys, 31 girls; M_{age} = 6.73, SD = 1.94) and 68 children from Massachusetts (38 boys, 30 girls; M_{age} = 6.40, SD = 1.78). Children from Hawai'i were recruited from the local community on the island of Oahu through flyers, word of mouth, and information distributed at pediatrician offices that serve middle and upper-middle income families in June and July 2006, December 2009, and April 2015. The schools and neighborhoods of these children reflected the racial diversity of Hawai'i in general (30% Asian, 26% multiracial, 36% White, 2% Black). Children from Massachusetts were recruited from four suburban public elementary schools that serve middle and upper-middle income families outside Boston, Massachusetts, and from the local community through mail solicitations to parents from August 2005 to May 2007. The schools and neighborhoods of these children were all racially homogenous with a majority White population. The children from Massachusetts were part of larger published data set (Pauker et al., 2010) and were randomly chosen to be included in these analyses as a comparison group with the stipulation that the sample matched the Hawai'i sample in age distribution.

Participants from Massachusetts were mostly White (89.7%), with a small representation of Asian (7.4%) and multiracial (2.9%) individuals. Those from Hawai'i represented a diverse sample, comprising White (39.7%), Asian (19.1%), and multiracial (41.2%) individuals.

Measures and Procedure

Parents were informed of the study via letters sent home by school administrators or by phone or

in person (for those children recruited from the community). Upon receipt of parental consent, children who provided verbal assent participated individually in a quiet location. The three tasks in this study were presented in the same order for all participants: racial stereotyping, race salience, and race essentialism. This fixed order was chosen for two reasons. First, the race essentialism task was presented after the administration of the racial stereotyping and salience tasks because it relied more on overt racial categorization. Specifically, the stereotyping and salience tasks focused on children's spontaneous use of race as a categorization dimension, whereas the race essentialism task was more obviously about race. Second, the racial stereotyping task was presented before the salience task because it did not involve explicitly labeling race (either by the experimenter or the participant). In contrast, the race salience task focused children on categorization broadly and required them to explicitly label their categorizations, both processes known to increase stereotyping (Bigler & Liben, 2007). Thus, in order to reduce the contamination of the primary dependent measure, the racial stereotyping task always came first.

Stimuli

The photos used in all the tasks described below (i.e., racial stereotyping, race salience, and race essentialism) were taken from the Internet and an existing laboratory database, and were pretested for perceived attractiveness, age, race, and emotionality by adults and children (6–10 years; see Pauker et al., 2010, for details on pretesting). Photo pairs were matched in perceived attractiveness, age, emotionality, and pretesting confirmed they were perceived as the intended racial group. Photos selected to depict Asian targets were individuals from East Asian (e.g., Japanese, Chinese) backgrounds, as these are the groups most associated with the broad Asian stereotypes measured in this study (see racial stereotyping task).

Racial Stereotyping

We used the stereotyping task developed in Pauker et al. (2010). Forty-eight photos of male children were arranged into 24 pairs that were presented with 24 brief behavioral episodes. Nine episodes (three per racial group) described behaviors that typify prevalent *negative* stereotypes about three racial groups: Blacks (e.g., acting aggressively, underperforming academically), Asians (e.g., acting submissively, retaining foreign customs), and Whites (e.g., bragging, excluding others). Nine episodes described *positive* stereotypes about the three racial groups: Blacks (e.g., playing basketball well, being rhythmic), Asians (e.g., playing violin skillfully, excelling in math), and Whites (e.g., being wealthy, acting as a leader). Six episodes were nonstereotypical fillers that described race-neutral behaviors (e.g., liking animals, playing outdoors).

In each trial, participants were presented with a pair of photos and an episode that was narrated by the experimenter and asked to select the child that was more likely to demonstrate the target behavior. In a stereotypical episode, a photo of a child from the racial group targeted by the stereotype was presented alongside a randomly selected photo from one of the other two racial groups (see Pauker et al., 2010, for information on randomization). The race of the children depicted in the photo pairs was never explicitly labeled. Children simply picked which child best matched the narrated episode. Neutral episodes included pairs of photos of two children of the same race to minimize the salience of race in the task. Younger children (4-year-olds) heard a subset of the stereotypical episodes (two positive and two negative episodes for each racial group) in order to increase the likelihood that their concentration would last through the whole task. Responses were coded as stereotypical if a participant selected the child belonging to the racial group targeted by the stereotypical episode. By averaging scores across episodes for each racial group, we created two composite scores to reflect in-group and out-group stereotyping where scores ranged from 0 = *no stereotypical response for any in-group or out-group episode* to 1 = *stereotypical response for every in-group or out-group episode*. Determination of in-group and out-group episodes depended on the participant's race. For example, if a participant was White, out-group stereotyping comprised Asian and Black episodes and in-group stereotyping comprised White episodes. For multiracial children, in-group was coded as any episodes that corresponded to any of their backgrounds (e.g., if they were Asian and White, in-group stereotyping would comprise Asian and White episodes).

Race Salience

Using procedures reported in Pauker et al. (2010), the race salience task consisted of 16 photographs of people cropped at the waist who varied systematically by race (Black, White), gender (male, female), age (children, adults), and facial expression

(serious, laughing). The photos also differed non-systematically by other dimensions (e.g., clothing).

The experimenter spread the photos out and asked the participant to sort them into two groups such that, "people who go together are in the same pile." If able to complete a sort, children were asked to label their sort. The experimenter then asked the participant to sort again, using a different dimension. This continued until the participant could no longer think of new dimensions to sort the photos. Those who spontaneously sorted by race in *any* of their sorts were given a score of 1 and those who did not sort by race were given a score of 0. A sort by race included trials where a child labeled their sort as a sort by race (e.g., "Black people and White people," "dark skin and light skin"), and independent coders agreed with the child's label, and also trials where a child did not label their sort, but independent coders agreed the child sorted by race based on the piles created. We also recorded how many sorts the child completed and the rank of race in the child's sorts (see Table 1, for descriptive statistics, including the proportion of children who used race as their first sort). For this and all subsequent coding tasks, two experimenters independently coded the responses. Inter\rater agreement was high (Cohen's κ = .96), and disagreements were resolved via discussion.

Race Essentialism

Three items were used to assess the perceived immutability of race modeled after previous tasks (Hirschfeld, 1995; Ruble et al., 2007). First, participants saw a same-gender photograph of either a White or a Black child above one White and one Black adult and were asked, "When this child grows up, will they look more like this adult or that adult?" Second, participants saw a photograph of a White or a Black adult above one White and one Black child and were asked, "When this adult was little, did they look more like this [White] child or this [Black] child?" The task involved judgments about both White and Black targets, the order of which was counterbalanced within participants (i.e., if a child received a White child for the first question, they received a Black adult for the second question). Whether children received a White child–Black adult or Black child–White adult target combination was counterbalanced across participants. Target combination did not affect results. Finally, participants were shown a picture of a White child and were asked, "If this child really wanted to be Black and change his/her skin color could he/she do that?" Children were then asked a follow-up question (e.g., "How would he/she change?" or "Why can't he/she change?") to examine if their response reflected essentialist thinking (e.g., that race is stable) or not (e.g., an idiosyncratic response; Giménez & Harris, 2002).

Responses on the first two items were coded 1 = *correct* or 0 = *incorrect* race matches. For the third item, responses were coded as correct (1) only if the if the initial question was answered correctly (i.e., children responded "no") *and* their explanation indicated true essentialist reasoning by mentioning

Table 1

Descriptive Statistics for Social-Cognitive Variables Across Age and Social Context

	Hawai'i				Massachusetts			
	Race salience	Race first sort	No. of sorts	Race essentialism	Race salience	Race first sort	No. of sorts	Race essentialism
4- to 6-year-olds								
M (SD)	0.29 (0.46)	0.19 (0.40)	1.4 (0.97)	2.00 (0.84)	0.50 (0.51)	0.29 (0.46)	2.5 (1.8)	1.80 (0.74)
% max score				28.6				10.7
6- to 7-year-olds								
M (SD)	0.64 (0.49)	0.41 (0.50)	3.9 (2.1)	2.45 (0.51)	0.61 (0.50)	0.28 (0.46)	4.8 (2.6)	2.44 (0.71)
% max score				45.5				55.6
7- to 11-year-olds								
M (SD)	0.88 (0.33)	0.36 (0.49)	5.3 (2.2)	2.32 (0.56)	0.82 (0.40)	0.50 (0.51)	4.6 (1.1)	2.82 (0.50)
% max score				36.0				86.4
Range	0–1	0–1	0–10	0–3	0–1	0–1	0–11	0–3

Note. Although all analyses treated age as a continuous variable, for illustrative purposes, we present descriptives averaged by age group. The younger age group is centered around (−1 SD) from the mean age, the middle age group is centered around the mean age for the sample, and the older age group is centered around (+1 SD). % max score refers to the percentage of children obtaining the maximum score (3) on the race essentialism task.

immutability (e.g., "black skin stays forever"), inheritability or biology (e.g., "you stay the same because you are born that way"), or naturalness (e.g., "can't change his skin, he was made that way"; see Pauker et al., 2010; Ruble et al., 2007, for similar methods and coding strategies). All other responses were coded as incorrect (0). Interrater agreement was high (Cohen's κ = .94). These scores were summed to form a race essentialism score, where higher values indicate a greater sense of the immutability of race.

Results

Analytic Approach

Our primary outcome of interest was participants' use of racial in-group and out-group stereotypes. First, we used regression analyses to examine potential geographic differences in children's use of in-group and out-group stereotypes with age across the two social contexts and whether our social-cognitive variables (salience and essentialism) differed across the two contexts with age. Next, we employed hierarchical multiple regressions to examine the independent contribution of race salience and race essentialism in explaining in-group and out-group stereotyping across social contexts, controlling for other variables, such as age, gender, and participant race. Finally, we utilized a moderated-mediation model to examine whether

differences in children's essentialist thinking about race would explain any geographic differences in racial stereotyping that emerged with age. All continuous predictors were centered (Aiken & West, 1991; see Table S1, for all zero-order correlations).

Geographic Social Context Differences in Racial Stereotyping

Using linear regression, we first examined geographic differences in racial stereotyping that emerged with age. We regressed in-group stereotyping onto age, context (−1 = Hawai'i, 1 = Massachusetts), and their interaction. As expected, as children aged, they displayed more in-group stereotyping, $\beta = .31$, $t(132) = 3.79$, $p < .001$. In-group stereotyping did not differ overall by context ($\beta = -.07$, $p = .393$), and the age effect was not moderated by context ($\beta = -.02$, $p = .811$).

We then used linear regression to regress out-group stereotyping onto age, context, and their interaction. Overall, out-group stereotyping increased with age, $\beta = .31$, $t(132) = 3.79$, $p < .001$, and did not differ overall by social context ($\beta = .07$, $p = .374$). However, as predicted, the effect of age was qualified by an interaction with social context, $\beta = .17$, $t(132) = 2.04$, $p = .043$. As displayed in Figure 1, simple slopes analyses (estimated with age +1 SD and −1 SD from the mean) indicated that older children in Massachusetts used more out-group stereotypes compared to older children in
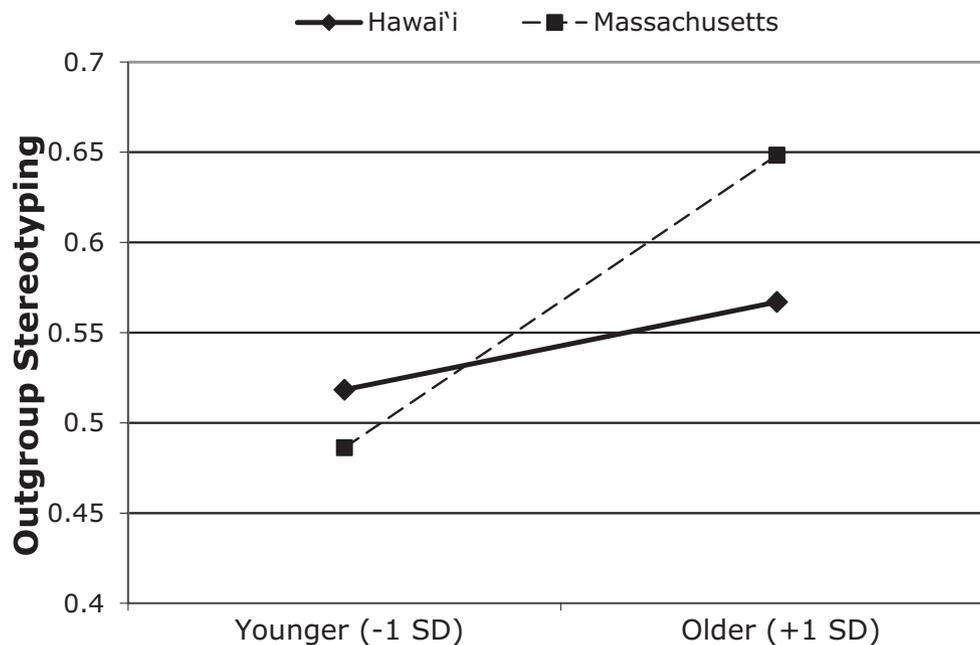

Figure 1. Out-group stereotyping as a function of participant's age (at ± 1 *SD*) and social context.

Hawai'i, β = .24, t(132) = 2.07, p = .041, whereas younger children in Massachusetts and Hawai'i were equally (less) likely to use out-group stereotypes, β = −.10, t(132) = −0.82, p = .412. Described another way, out-group stereotyping increased with age in Massachusetts, β = .48, t(132) = 3.94, p < .001, but did not significantly increase with age in Hawai'i, β = .14, t(132) = 1.29, p = .200.

Social-Cognitive Factors and Racial Stereotyping

Age and Contextual Differences in Social-Cognitive Factors

We used a logistic regression to examine the effect of age, context, and their interaction on race salience. Race salience increased with age, B = .62, SE = .15, p < .001, OR = 1.85, 95% CI [1.39, 2.46], but neither the effect of social context nor its interaction with age was related to race salience (Bs < .15, ps > .528). A clear social context difference among older children emerged with respect to race essentialism, however. Using a linear regression, when we regressed race essentialism score onto age, context, and their interaction, we found that race essentialism increased with age, β = .38, t(132) = 4.77, p < .001. Again there was no overall effect of social context (β = .05, p = .503), but as predicted, the effect of age depended on social context, β = .22, t(132) = 2.71, p = .008. Simple slopes analyses revealed that race essentialism reliably increased with age in Massachusetts, β = .60, t(132) = 5.06, p < . 001, but did not increase significantly with age in Hawai'i, β = .16, t(132) = 1.51, p = .133. Presented another way, among younger children (−1 SD; ~4.71 years), there was no contextual difference in race essentialism, β = −.16, t(132) = −1.46, p = .147, but among older children (+1 SD; ~8.42 years) there was significantly higher race essentialism in Massachusetts compared to Hawai'i, β = .27, t(132) = 2.39, p = .018. Table 1 provides means for race salience and essentialism broken down by age (age groups centered around ± 1 SD from the mean) and context.

Do Race Salience and Race Essentialism Relate to In-Group and Out-Group Stereotyping?

To explore social cognitions underlying differences in the racial stereotypes reported by children in each context, we ran a multiple hierarchical regression on in-group and out-group stereotyping separately. As displayed in Table 2, in Step 1, we entered a number of variables for which we wanted to control in the regression: gender (−1 = male, 1 = female) and participant race (White, Asian, or multiracial; effect coded with White as the reference category). In Step 2, we entered our first predictors of interest: children's age (in years) and social context (−1 = Hawai'i, 1 = Massachusetts). In Step 3, we entered other predictors of interest that might help explain social context differences: race salience (i.e., sorting by race; coded as −1 = no and 1 = yes) and race essentialism score. In Step 4, we entered the interaction of age and social context. Note, in preliminary models participant gender and participant race did not interact significantly with age, social context, race salience, or race essentialism. Additionally, models that remove participant gender and participant race as covariates yield nearly identical results to those presented below. We present results with these covariates included to allow comparability to past studies (e.g., Pauker et al., 2010).

For in-group stereotyping, the model was significant at the second step, F(5, 130) = 4.45, R^2 = .15, p = .001, and remained significant across all subsequent steps through the final step, F(8, 127) = 2.94, R^2 = .16, p = .005. Once all variables were taken into account in the final model (see Table 2), only age remained a significant and unique predictor of in-group stereotyping. Participants exhibited more in-group stereotyping with age, β = .34, t(127) = 3.53, p = .001. Neither context nor the social-cognitive variables (i.e., race salience or race essentialism) uniquely explained in-group stereotyping.

For out-group stereotyping, the model was significant at the second step, F(5, 130) = 3.45, R^2 = .12, p = .006, and remained significant through to the final step, F(8, 127) = 3.82, R^2 = .19, p < .001. Once all variables were taken into account in the final model (see Table 2), two variables remained significant and unique predictors of out-group stereotyping. Out-group stereotyping increased with age, β = .19, t(127) = 2.06, p = .041, and was associated with higher race essentialism, β = .25, t(127) = 2.72, p = .007. Interestingly, the previous significant Age × Context interaction from our analyses of geographic differences in out-group stereotyping (Figure 1) was no longer significant once race essentialism was added to the model.

Children's Essentialist Reasoning

In order to further explore contextual differences in children's lay theories and why race essentialism corresponded to out-group stereotyping in the two social contexts, we examined children's reasoning

Table 2

Final Model of Hierarchical Regression Analyses for In-Group and Out-Group Stereotyping

	B	SE B	β	R^2	F change in R^2
In-group stereotyping					
Intercept	0.60	.02			
Step 1: Background variables				.05	2.07
Gender (−1 = male, 1 = female)	−0.03	.02	−.12		
Race: Asian American	0.05	.04	.17		
Race: Multiracial	−0.01	.03	−.02		
Step 2: Age and context				.15	7.71**
Age	0.04	.01	.34**		
Context (−1 = MA, 1 = HI)	−0.00	.02	−0.01		
Step 3: Social-cognitive factors				.16	0.75
Race salience	0.01	.02	.04		
Race essentialism	−0.03	.03	−.10		
Step 4: Age × Context interaction				.16	0.06
Age × Context interaction	−0.00	.01	−.02		
Out-group stereotyping					
Intercept	.56	.02			
Step 1: Background variables				.02	1.02
Gender (−1 = male, 1 = female)	.01	.01	.08		
Race: Asian American	−.02	.03	−.08		
Race: Multiracial	.03	.03	.15		
Step 2: Age and context				.12	6.96**
Age	.02	.01	.19*		
Context (−1 = MA, 1 = HI)	.02	.02	.10		
Step 3: Social-cognitive factors				.19	5.28**
Race salience	.01	.02	.07		
Race essentialism	.06	.02	.25**		
Step 4: Age × Context interaction				.20	1.47
Age × Context interaction	.01	.01	.10		

Note. Coefficients for each variable reflect values at Step 4. Race of the participant was effect coded with White as the reference group. MA stands for Massachusetts and HI stands for Hawai'i. *p < .05. **p < .01.

in the race essentialism measure. This analysis is presented in the Supporting Information and found that, overall, children in Massachusetts relied more on essentialist reasoning with age, whereas older children in Hawai'i adopted other context specific reasoning (e.g., culture and language, sun-tan related) in place of essentialist reasoning.

Mediation of Social Context Differences in Out-Group Stereotyping

Given the contextual differences in both out-group stereotyping and race essentialism in older children, we used Hayes' (2012) PROCESS algorithm (Model 8) to examine a moderated mediation: whether children's race essentialism scores would mediate the relation between social context and out-group stereotyping only among older compared to younger children (i.e., moderated by age). As discussed in earlier analyses, we showed that there

was more out-group stereotyping and greater essentialism with age in Massachusetts compared to Hawai'i. Essentialism also independently predicted out-group stereotyping controlling for context and reduced the Age × Context effect on out-group stereotyping. Using 1,000 resamples, the moderated mediation revealed that the indirect effect of social context on out-group stereotyping through race essentialism was moderated by age. As expected, race essentialism mediated the effect of social context on out-group stereotyping for older (+1 SD) children (indirect effect = .012, SE = .007, 95% CI [.002, .031]), but not younger (−1 SD) children (95% CI [−.031, .002]).

Could Context Differences Be Due to Differences in the Samples' Racial Diversity?

One potential alternative explanation for social context differences could be that the Hawai'i

sample was more diverse than the Massachusetts sample. Notably, when we controlled for race in all analyses reported thus far, the pattern of results did not change and participant race did not contribute significantly to the models. Additionally, evidence that the sample's racial diversity affected stereotyping through a group-based status account would predict comparable Black stereotyping in both contexts, as it is the only clear lower status group in both contexts. The target stereotyping analyses presented in the Supporting Information did not support this prediction.

Critically, additional analyses showed that the social-cognitive variable hypothesized to explain social context differences in out-group stereotyping (i.e., race essentialism) differed drastically in Hawai'i and Massachusetts, even for White participants. When we regressed race essentialism onto age, context, and their interaction for only White participants (Hawai'i: $n = 27$; Massachusetts: $n = 61$), a pattern of results almost identical to those of the entire sample emerged: Race essentialism increased with age, $\beta = .30$, $t(84) = 2.90$, $p = .005$, but this effect depended on social context, $\beta = .27$, $t(84) = 2.65$, $p = .010$. Simple slopes analysis revealed that even White children in Hawai'i did not exhibit more race essentialism with age, $\beta = .025$, $t(84) = .16$, $p = .877$, whereas White children in Massachusetts did exhibit more race essentialism with age, $\beta = .57$, $t(84) = 4.35$, $p < .001$.

Could Context Differences Be Due to Specific Target Stereotypes?

An overall analyses that examined differences in stereotyping by target (controlling for within-person interdependence) using generalized estimating equations (Zeger & Liang, 1986) did not provide evidence that certain target stereotypes were driving these effects. An analysis that examined Black, Asian, and White stereotypes separately found that children in Massachusetts exhibited more Black stereotyping overall (see analyses in Supporting Information), but children's Asian or White stereotyping did not differ across contexts.

Discussion

The current findings support our hypotheses that different social contexts (Hawai'i and Massachusetts) would foster the development of a unique constellation of racial stereotypes and differences in racial cognition. In support of our first

prediction, children's in-group stereotyping increased with age in both contexts, but out-group stereotyping increased with age only in Massachusetts. Second, as predicted, race salience increased with age, and race was equally salient across both contexts, but children differed substantially in the extent to which they essentialized race with age across contexts. Children in Hawai'i essentialized race less than children in Massachusetts as they got older. Race essentialism uniquely predicted out-group stereotyping, controlling for background variables (e.g., participant gender, participant race), age, and social context. Finally, the moderated mediation analysis showed that contextual difference in essentializing race helped explain the geographic differences in out-group stereotyping, but only among older children.

A general lack of an increase in out-group stereotyping with age in Hawai'i compared to the clear increase in out-group stereotyping with age in Massachusetts is consistent with a number of explanations tied to the difference in racial diversity in the two social contexts. One possibility is children may simply be exposed to different sets of racial stereotypes based on the predominant minority groups in that social context. The analyses by stereotype target (see Supporting Information) indicated that children in Hawai'i exhibit less stereotyping about Blacks compared to those in Massachusetts. Given that Blacks make up a very small racial minority in Hawai'i, it is possible that children in Hawai'i are simply less exposed to Black stereotypes (or they may be irrelevant to the intergroup context in Hawai'i). This effect, however, was not entirely consistent across racial groups in Hawai'i; for example, separate correlations between age and Black stereotyping for Asian, White, and multiracial children in Hawai'i revealed White and multiracial children's Black stereotyping was positively (but nonsignificantly) related to age, whereas Asian children's Black stereotyping was negatively (but nonsignificantly) related to age (see Supporting Information). If reduced Black stereotyping was an informational effect, its association with age should be similar across all racial groups, as all three groups have similarly low exposure to Black individuals in Hawai'i.

Another explanation for reduced out-group stereotyping with age in Hawai'i could be variations in the samples' racial demographics. Namely, the Hawai'i sample, in addition to coming from a more racially diverse social context, was itself more diverse, whereas the Massachusetts sample was primarily White. Thus, children in Hawai'i may

exhibit less out-group stereotyping because the sample comprised more racial minorities, who typically exhibit less intergroup bias than White majority individuals (e.g., Aboud, 1988; Spencer, 1984). Recent research has found that reduced intergroup bias typically found among racial minority children may be explained, at least in part, by awareness of social status differences (e.g., Shutts et al., 2011). Specifically, those lower in the social hierarchy (which often maps on to racial minority status) tend to exhibit less intergroup bias.

There are several unique aspects of Hawaii's intergroup context, however, that make predictions based on minority group membership less clear. Our sample included White, Asian, and multiracial children, who comprise the three largest racial groups in Hawai'i, making up 24.7%, 38.6%, and 23.6% of the population, respectively. These three groups also share the high-status position in Hawai'i based on occupation, income, and educational attainment (Okamura, 2008), though this is specific to Japanese and Chinese in Hawai'i and not other Asian ethnicities (e.g., Filipino). Thus, the sample in Hawai'i, despite its racial diversity, comprised primarily children who occupy high-status positions in that social context, similar to those in Massachusetts (i.e., White children). If children were using the status hierarchy to inform their stereotyping, we might expect *more* stereotyping of Black individuals in Hawai'i with age (or at least stereotyping comparable to Massachusetts). Among the target stereotypes assessed (i.e., Asian, Black, White), Black is the only racial category that is somewhat lower in the status hierarchy in Hawai'i. Yet, the data did not support the prediction of increased Black stereotyping in Hawai'i (see analyses in the Supporting Information).

Additionally, controlling for children's race in the analyses did not substantially change any of the results. Importantly, race essentialism—representative of the lens through which children interpret their context—helped explain geographic differences in out-group stereotyping as shown in the moderated mediation analysis. Consistent with a social context rather than racial-group membership argument and recent work with adults (Carpinella et al., 2015), even White children in Hawai'i exhibited comparably less race essentialism with age compared to those in Massachusetts. Given the lack of evidence supporting a status-based explanation and the lack of an effect of participant race, it is unlikely that the current results can be explained simply by a difference in sample diversity. Differences in the *type* of stereotypes used across the two settings seem to reflect context-level differences in stereotypes, but future research should carefully examine the role of group status, numerical minority status, and group exposure to disentangle what may be driving such contextual differences in racial stereotyping.

The examination of panethnic stereotypes (Asian American) did not allow us to examine the potential variation that exists in stereotyping among individual Asian ethnicities. Asian is a broad panethnic category that includes many ethnicities that differ substantially in their history, norms, and culture (Alegria et al., 2004). The photos used in the racial stereotyping task depicted East Asian individuals, and the stereotypes measured (while also considered broad Asian stereotypes) are most associated with this group. There is important variability in the economic status of different Asian ethnicities that could affect social contextual differences in racial stereotyping. For example, in Hawai'i, Japanese and Chinese Americans occupy a higher social status position than Filipinos. It will be important for future research to consider such differences and how these judgments are situated within a particular intergroup context.

On the Role of Children's Race Essentialism

Even if race is psychologically salient, in social contexts that foster racial integration and intergroup contact, race may be essentialized less and subsequent negative intergroup outcomes may be reduced (see Deeb et al., 2011). Thus, the acquisition and application of racial stereotypes may not only depend on psychological salience of race but also on children's lay theories about race and the context in which the child is situated.

Children's lay theories about race may direct how they interpret racialized information in their environment. Children who essentialize race are more likely to construe race as reflecting a fundamental difference and will use this lens to understand group-based differences in their environment (Bigler & Liben, 2007). Consistent with this theory, the present findings suggest that children who essentialize race also stereotype out-group members to a greater extent. Corroborating other work with children, we found a more diverse context (in this case Hawai'i) appears to foster less essentialist lay theories about race (Deeb et al., 2011; Rhodes & Gelman, 2009), which may have positive implications for intergroup relations, such as reduced stereotyping of racial out-group members.

Importantly, we found that not all children essentialized race; those in a racially diverse context

did not essentialize race more with age, whereas those in a more racially homogenous context did essentialize race more with age. Children's lay theories about race appear to depend on how race is construed and constructed in their environment (Diesendruck et al., 2013; Rhodes & Gelman, 2009; cf., Hirschfeld, 1995), a factor highlighted through studying unique intergroup contexts, as we did here. Although we were able to measure differences in children's social cognition by examining two unique intergroup contexts, one limitation of the present work is the lack of a direct measure of the features in these contexts that may be driving these results. For example, racial diversity is valued in Hawaii. In diverse contexts characterized by intergroup conflict, exposure to diversity may serve to increase race essentialism and corresponding outgroup stereotyping. Future work should aim to quantify and measure these specific features (e.g., exposure to diversity, functional value of stereotypes, language used to discuss race, social norms) to pinpoint how these contexts may influence children's conceptualization and use of race.

On the Malleability of Stereotypes

Although race salience and essentialism may invariably support the acquisition of racial stereotypes, the meaning imbued to these processes should depend on environmental input. The current results suggest that despite potential difficulty in trying to modify children's perception of racial differences, negative outcomes related to categorization (i.e., stereotyping) may be minimized through changing the functional meaning of such categorizations or through fostering more fluid lay theories about race. For example, categorization used in a particular context for the purpose of communication and creating bridges may engender a very different outcome than categorization used for segregation and distributing limited resources. Moreover certain contexts (e.g., those that are racially heterogeneous) may encourage less essentialist reasoning about race (Deeb et al., 2011; Rhodes & Gelman, 2009), which may mitigate outgroup stereotyping. A number of studies with adults have demonstrated the ability to manipulate essentialist thinking about groups (e.g., Levy et al., 1998; Williams & Eberhardt, 2008). Thus, interventions aimed at altering racial stereotypes may best be accomplished through means that promote children's adoption of more fluid lay theories about race.

In conclusion, the results of the present research demonstrate that a child's broader social context contributes to their lay theories about race, which explains differential emergence of out-group stereotyping across two geographic contexts: Hawai'i and Massachusetts. The emergence of racial stereotyping and the contents of these stereotypes may not only depend on the associations present in a child's immediate environment but also the meaning they extract and construct about the mutability or immutability of race.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Table S1. Correlations Among Variables

Table S2. Percentage of Children Who Report Different Types of Reasoning to Explain Why They Could or Could Not Change to a Different Race

Appendix S1. Additional Results

Supplementary Materials

Appendix S1: Additional Results

Children's essentialist reasoning. We coded the reasoning underlying children's responses regarding whether another person could change their race into one of five categories: no answer provided, superficial reasoning (e.g., "paint their skin," "change their clothes"), idiosyncratic or sun-tan related (e.g., idiosyncratic: "grow," sun-tan related: "get Black in the sun"), essentialist reasoning (e.g., "you can't change your skin," "White mommies have White babies"), or culture or language-related reasoning (e.g., "go to Africa and learn some African"). See Table S2 for a summary of children's reasoning.

We used a multinomial regression to examine the affect of age, social context and their interaction on the type of reasoning children used in the race essentialism measure. Overall, the model was significant, $\chi^2(12) = 63.23$, $p < .001$. With age, children relied on more essentialist reasoning compared to no reasoning ($B = 1.93$, $SE = .59$, $p = .001$, $OR = 6.86$, 95% CI [2.18, 21.61]), but the increase in essentialist reasoning with age was moderated by social context and was more prevalent in Massachusetts compared to Hawai'i (age × context interaction: $B = 1.76$, $SE = .67$, $p = .008$). Children also relied on more essentialist reasoning compared to idiosyncratic or sun-tan related reasoning with age ($B = 1.04$, $SE = .48$, $p = .03$, $OR = 2.83$, 95% CI [1.10, 7.32], but a greater reliance on essentialist compared to idiosyncratic or sun-tan related reasoning overall was more apparent in Massachusetts compared to Hawai'i, $B = 2.18$, $SE = .75$, $p = .004$, $OR = 8.83$, 95% CI [2.03, 38.45]. Children in Hawai'i also adapted more culture and language related reasoning with age, which was not apparent in Massachusetts (no comparison was available due to the absence of this type of reasoning in Massachusetts; see Table S2). Overall, children in Massachusetts relied more on essentialist reasoning with age, whereas older children

in Hawai'i adopted other context specific reasoning (e.g., culture and language, sun-tan related) in place of essentialist reasoning.

Target analysis. In order to examine potential differences in stereotyping based on particular targets (i.e., Asian, White or Black stereotypes), we used generalized estimating equations (GEE) to adjust for interdependence in participants' judgments of multiple target types (Zeger & Liang, 1986). We tested a model that included main effects of age (mean-centered), context (coded as -1 = Hawai'i, 1 = Massachusetts), type of stereotypes (coded as -1 = Asian, 0 = White, 1 = Black) and all two- and three-way interactions. The analyses yielded a significant main effect of age ($B = .04$, $SE = .02$, Wald $\chi^2 = 5.89$, $p = .015$, such that overall stereotyping increased with age. Children also differed in the type of stereotypes they applied, with more children using Asian compared to Black stereotypes ($B = .11$, $SE = .04$, Wald $\chi^2 = 6.03$, $p = .014$). There was no effect of social context, nor any interactions with social context ($-.03 < Bs < .03$, $ps > .288$). When we controlled for race in this model, the effects did not change. This suggests that certain types of stereotypes (e.g., Asian, White, Black) were not used systematically more or less in any one particular social context, controlling for within-person interdependence.

When we examined each type of stereotype separately, a slightly more nuanced picture emerged. When we regressed Black stereotyping on participant race (effect coded with White as the reference category), age (mean-centered), context, and the age × context interaction, a social context difference emerged with more Black stereotyping present in Massachusetts compared to Hawai'i ($\beta = .20$, $t(130) = 2.02$, $p = .046$). Black stereotypes were also more prevalent with age ($\beta = .23$, $t(130) = 2.81$, $p = .006$), and amongst multiracial children ($\beta = .43$, $t(130) = 3.35$, $p = .001$). The same analyses with White stereotyping and Asian stereotyping revealed only a main

effect of age ($\beta = .23$, $t(130) = 2.73$, $p = .007$ and $\beta = .45$, $t(130) = 5.69$, $p < .001$, respectively).

Thus, only Black stereotypes showed any evidence of differing across context. White and Asian stereotypes increased similarly with age across both contexts.

Finally, we present correlations between age and each type of target stereotyping broken down by participant race and social context. Due to restricted sample size of other racial groups in Massachusetts, only correlations for White participants in Massachusetts are presented. All three groups in Hawaiʻi exhibited a positive association between age and Asian stereotyping ($r_{White} = .35$, $p = .066$, $r_{Asian} = .66$, $p = .015$, and $r_{Mutiracial} = .65$, $p < .001$), as did White children in Massachusetts ($r = .31$, $p = .015$). White ($r = .30$, $p = .123$) and multiracial children ($r = .19$, $p = .331$) in Hawaiʻi and White children in Massachusetts ($r = .22$, $p = .097$) exhibited positive but non-significant associations between age and Black stereotyping. In contrast, Asian children in Hawaiʻi exhibited little use of Black stereotypes with age ($r = -.13$, $p = .685$). Similarly, White ($r = .20$, $p = .330$) and multiracial ($r = .22$, $p = .270$) children in Hawaiʻi and White children in Massachusetts ($r = .18$, $p = .168$) exhibited positive but non-significant associations between White stereotyping and age. White stereotyping did not appear to increase with age for Asian children in Hawaiʻi ($r = .094$, $p = .761$).

Table S1.

Correlations among variables: Hawai'i

Variable	1	2	3	4
1. Age	—			
2. Race salience	.42***	—		
3. Racial essentialism	.19	.36**	—	
4. In-group stereotyping	.35**	.19	-.05	—
5. Out-group stereotyping	.14	.13	.16	.09

Correlations among variables: Massachusetts

Variable	1	2	3	4
1. Age	—			
2. Race salience	.38**	—		
3. Racial essentialism	.52***	.13	—	
4. In-group stereotyping	.28*	.13	.05	—
5. Out-group stereotyping	.52***	.30	.60***	-.02

Note. Since race salience is dichotomous, we report point-biserial correlations for this variable. *p < .05, **p < .01, ***p < .001

Table S2.

Percentage of Children Who Report Different Types of Reasoning to Explain Why They Could or Could Not Change to a Different Race

Type of reason (age)	Hawaiʻi					Massachusetts				
	None	Super-ficial	Sun-tan, Idio-syncratic	Essen-tialist	Culture, Language	None	Super-ficial	Sun-tan, Idio-syncratic	Essen-tialist	Culture, Language
4-6 year-olds	9.5	23.8	28.6	33.3	4.8	32.1	25.0	17.9	25.0	0.0
6-7 year-olds	0.0	4.5	40.9	50.0	4.5	5.6	16.7	5.6	72.2	0.0
7-11 year-olds	8.0	4.0	28.0	40.0	20.0	0.0	13.6	0.0	86.4	0.0

Note. Although all analyses treated age as a continuous variable, we present proportions averaged by age-group for illustrative purposes. The younger age-group is centered around (-1SD) from the mean age, the middle age-group is centered around the mean age for the sample, and the older age group is centered around (+1SD).