Race Salience and Essentialist Thinking in Racial Stereotype Development

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The authors explored the emergence and antecedents of racial stereotyping in 89 children ages 3–10 years. Children completed a number of matching and sorting tasks, including a measure designed to assess their knowledge and application of both positive and negative in-group and out-group stereotypes. Results indicate that children start to apply stereotypes to the out-group starting around 6 years of age. Controlling for a number of factors, 2 predictors contributed significantly toward uniquely explaining the use of these stereotypes: race salience (i.e., seeing and organizing by race) and essentialist thinking (i.e., believing that race cannot change). These results provide insight into how and when real-world interventions aimed at altering the acquisition of racial stereotypes may be implemented.

Young children possess a number of abilities that may serve as the foundation for learning racial knowledge. Three-month-old infants can discriminate perceptually between different racial groups (Bar-Haim, Ziv, Lamy, & Hodes, 2006; Kelly et al., 2005), preferring to look at faces that belong to a familiar racial group. By 3–4 years of age, children can sort people by race (Aboud, 1988; Nesdale, 2001), and soon after, those in the ethnic majority group (e.g., European American children in the United States) show signs of implicit and explicit in-group preferences (Baron & Banaji, 2006; Cameron, Alvarez, Ruble, & Fuligni, 2001; Nesdale, 2004). Recent work has explored several variables underlying biased group attitudes, such as the role of categorization (Bigler, Jones, & Lobliner, 1997; Patterson & Bigler, 2006) and status (Bigler, Brown, & Markell, 2001; Nesdale & Flesser, 2001). However, despite notable research exploring children's racial attitudes, relatively little work has investi-

gated the emergence and antecedents of children's racial stereotyping.

Much of past research exploring children's racial stereotyping has muddled the distinction between attitudes and stereotypes. Social psychologists have defined stereotypes as *cognitive* structures composed of consensual knowledge, beliefs, and expectations about social groups that may result in *both* positive and negative associations for a single specific group (Hamilton & Trolier, 1986). Stereotypes are thus distinct from racial attitudes, which reflect affective evaluations or preferences, where one group is consistently considered more positively and another more negatively. Measures conceived with the intent to measure stereotyping, such as ''trait stereotyping,'' often measure a construct more akin to attitudes (see Ruble et al., 2004). We attempted to clarify the literature on children's stereotyping by investigating how children learn both positive and negative stereotypes about their in-group and out-group.

Determining *when* children begin to use racial stereotypes is essential for understanding their developmental trajectory. Research has established that racial stereotyping occurs in early adolescents (Blake & Dennis, 1943; Maykovich, 1972; Rowley, Kurtz-Costes, Mistry, & Feagans, 2007); however,

limited research exists with younger children, especially those below 10 years of age. Thus, we set out to systematically explore children's use of stereotypes pertaining to European American, African American, and Asian American individuals beginning at 3 years—the youngest age at which children have been reported to exhibit the ability to sort by race (Nesdale, 2001)—a necessary precursor to racial stereotyping. By exploring stereotyping among children 3–10 years of age, we were able to encompass an age range wide enough both to examine the developmental acquisition and eventual application of such stereotypes.

Equally essential to understanding racial stereotype development is determining *what* factors facilitate the emergence of these stereotypes. The few studies that have explored children's racial stereotypes, as defined before, have either concentrated on the behavioral consequences of stereotype awareness (Ambady, Shih, Kim, & Pittinsky, 2001; Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008; McKown & Weinstein, 2003) or the content of stereotypes pertaining to a few specific groups (Bar-Tal, 1996; Bigler, Averhart, & Liben, 2003; Corenblum, 2003). Far less attention has been devoted to the social and cognitive variables associated with racial stereotype development.

Predictors of Stereotyping

Our understanding of social development can greatly benefit from integrating developmental and social psychological approaches (Bigler & Liben, 2007; Olson & Dweck, 2008). In one such integrative approach, Bigler and Liben (2007) propose that three core processes contribute to the formation of social stereotypes and prejudice: (a) establishing the psychological salience of different person attributes, (b) categorizing individuals by salient dimensions, and (c) developing sets of traits, behaviors, and emotions that are associated with particular salient social groups. Additionally, they hypothesize key factors—perceptual discriminability, proportional group size, and explicit and implicit use—shape the operation of psychological salience, the first of these core processes. Once a dimension becomes salient, they suggest that essentialism, in-group bias, and explicit and implicit attributions mold the development of stereotyping and prejudice pertaining to that dimension. We focused on two components this model suggests should affect racial stereotyping: race salience and essentialist thinking.

Race Salience

Racial stereotyping must be preceded by an understanding that race is a meaningful basis for social categorization. Merely noticing a perceptual difference by which one *can* sort people does not mean this difference will be perceived as a meaningful, psychologically salient dimension. Labeling and both explicit and implicit use of a category increase its salience (Bigler et al., 1997; Patterson & Bigler, 2006). For example, children may notice that shirt color is a dimension by which they can sort people, but they may not use it until they are engaged in a capture-the-flag game where shirt color denotes team members. Subsequently, children start to organize their world based on salient dimensions and infer that any observed differences in behavior must be caused by inherent group differences (Bigler & Liben, 2007). Returning to our example, if the team in blue beats the team in red in three consecutive games, children may infer those on the blue team are inherently athletic. Thus, after a category has become psychologically salient to a child, essentialist thinking may foster stereotype development.

Essentialist Thinking

Essentialist thinking—the tendency to think of categories as immutable and informative—is grounded in the belief that certain categories have important underlying essences that define their nature and properties (Gelman, 2003; Medin & Ortony, 1989). A number of studies with adults have linked essentialist beliefs to stereotyping (e.g., Plaks, Stroessner, Dweck, & Sherman, 2001; Yzerbyt, Corneille, & Estrada, 2001; Yzerbyt, Rocher, & Schadron, 1997). Essentialist beliefs even predict racial stereotyping in adults to a greater extent than, and independent of, a number of established individual difference measures known to be associated with stereotyping (Bastian & Haslam, 2006; Levy, Stroessner, & Dweck, 1998).

While studies show children essentialize both animal (e.g., Gelman & Wellman, 1991) and human (e.g., race and gender; Hirschfeld, 1995; Taylor, 1996) categories, few have explored the social consequences of essentialist thinking in children. In one of the few studies to address this issue, Levy and Dweck (1999) demonstrated that children who believed that people's personal characteristics were fixed and immutable stereotyped novel group members to a greater degree. Immutability is one of the central components of essentialist thinking, and

thus it is likely to be an important factor in the emergence of children's racial stereotypes.

Children naturally achieve a state where they view categories through such an essentialist lens when they attain racial constancy—a social-cognitive transition defined by viewing racial group membership as immutable. Once children believe that their own and others' racial group membership is permanent, they may consequently search out explanations for perceived similarities within or differences between racial groups (Cameron et al., 2001). Rutland, Cameron, Bennett, and Ferrell (2005) recently demonstrated that preschool children's level of racial constancy was significantly related to their racial bias scores (see also Semaj, 1980). While racial constancy has been related to racial bias, it remains an open question as to whether racial constancy also impacts racial stereotyping. Thus, we examined a naturally occurring change in essentialist thinking—the achievement of racial constancy—as a predictor of children's racial stereotyping.

Considerable variability has been reported with respect to *when* children achieve racial constancy—some work suggests racial constancy does not emerge until at least 7 or 8 years (Aboud, 1988; Aboud & Ruble, 1987; Hughes, 1997) and other work reports children exhibiting such capacities as early as preschool (Hirschfeld, 1995). These studies may in fact be measuring different components of similar constructs. Children may have nascent theories about race in preschool but may not have an explicit understanding of a coherent essentialist theory about race until slightly later. Examining children's social reasoning often provides valuable insight into children's understanding of social concepts not available through simple forced-choice measures (e.g., Killen & Stangor, 2001; Ruble et al., 2007; Taylor, Rhodes, & Gelman, 2009). Drawing on this framework, we probed children's reasoning regarding racial constancy to gauge age-related changes in essentialist thinking and reasoning.

The Present Research

The present investigation focused on two primary aims. First, we examined the emergence of children's racial stereotypes. Second, we explored potential antecedents to their development.

Since children start to demonstrate ethnic and racial awareness as young as 3 or 4 years of age and reliably report a number of stereotypes by early adolescence, we chose to investigate racial stereotyping in children 3–10 years of age. Our measure included both positive and negative stereotypes associated with three racial groups: European American, African American, and Asian American, which we recoded into in-group relevant and out-group relevant stereotypes. We predicted most children would demonstrate racial stereotyping around 6 years, since (a) previous work has demonstrated children's awareness of race-related occupational stereotypes at 6 years of age (Bigler et al., 2003) and (b) children at this age either have reached or will soon reach several important social-cognitive milestones, including racial constancy (Ruble et al., 2004). Accordingly, we first explored in-group and out-group stereotypes across four age groups: a very young group where we expected little or no stereotyping (preschoolers: 3–5 years), an older group where we expected prevalent stereotyping (second to fourth graders: 7–10 years), and two narrower groups centered around 6 years (kindergarteners: 5–6 years, first graders: 6–7 years) where we expected stereotyping to emerge.

The timing of stereotype acquisition may also depend on a child's own group membership. We expected that by virtue of being the numerical minority, minority group members who are more psychologically salient and distinctive (McGuire & McGuire, 1988) will more often be the targets of racial stereotyping than proportionally larger (racial majority) groups (Bigler & Liben, 2007). Thus, we predicted that European American, racial majority group children should exhibit more stereotyping with age, but that they would primarily use out-group opposed to in-group stereotypes.

Next, we examined several factors predicted to contribute to the emergence of racial stereotyping. To control for children's level of cognitive development, we included a classic sorting task often employed as a measure of classification skills. This provided us with a measure of cognitive skill and an opportunity to assess children's spontaneous use of race as a sorting dimension. Children's use of race as a sorting dimension and their mention of race in a subsequent task in which they described an array of faces, served as measures of race salience. Finally, children completed a racial constancy task, which included a free-response question in which we coded their use of essentialist reasoning. While we expected both age and classification skill would be related to racial stereotyping, we predicted that two primary factors would contribute uniquely to the emergence of racial stereotype awareness in children: race salience and essentialist thinking in racial constancy.

Method

Participants and Design

A total of 89 children were recruited from the local community through mail solicitations to parents and from four suburban public elementary schools that serve middle- and upper-middle-income families outside Boston, Massachusetts. The return rate of initial letters sent out to the local community was 40%, and 90% of those parents agreed to participate. In the elementary schools, among consents sent home with students in participating classes, 75% gave written permission. These children's schools were predominantly European American (76%), with some Asian American (11%), African American (4%), and Latino American (9%) children; their neighborhoods also had a similar composition. The sample consisted of four age groups: preschoolers (3–5 years; $M = 3.73$ years, $SD = 0.37$; $n = 21$ [9 females]), kindergarteners (5–6 years; $M = 5.29$ years, $SD = 0.50$; $n = 36$ [14 females]), first graders (6–7 years; $M = 6.71$ years, $SD = 0.25$; $n = 16$ [9 females]), and second to fourth graders (7–10 years; $M = 8.97$, $SD = 1.32$; $n = 16$ [7 females]). Participants were mostly European American (89.9%), with a small representation of minority participants (4.5% Asian American, 5.6% Multiracial).

Measures and Procedure

Parents were informed of the study via letters sent home by school administrators or by phone for those children recruited from the community. Upon receipt of parental consent, individual children who provided verbal assent participated in a quiet location, separate from other children in the elementary school or separate from their parents. The experimenter led the participant through four tasks, assessing racial stereotyping, classification skill, race salience, and essentialist reasoning in racial constancy. To avoid contamination from tasks that were obviously about race (e.g., racial constancy) and to enable spontaneous assessment of children's use of race as a categorization dimension in earlier tasks (e.g., classification task), these tasks were always presented in the same order.

Racial Stereotyping

Forty-eight high-resolution photos of male children were arranged into 24 pairs. We used only male photographs for the racial stereotyping task because several of the stereotypes used are more strongly associated with males (e.g., Maddox & Gray, 2002; Niemann, Jennings, Rozelle, Baxter, & Sullivan, 1994). Photographs were taken from the Internet and an existing laboratory database and were pretested for perceived attractiveness, age, race, and emotionality. Adults ages 18–22 ($N = 30$) and children ages 6–10 ($N = 15$) rated the photos. Adults used a 7-point scale and children used a 5-point scale to rate attractiveness. For the remaining items, raters indicated their free response. Photos receiving extreme ratings of attractiveness or age were dropped, as were photos for which racial categorization was not reliably accurate. Each of the 48 final selected photos was cropped below the shoulders, gray-scaled, and pasted onto a uniform background before being placed into a photo album. The experimenter led the child through the photo album while narrating 24 brief behavioral episodes.

For each episode, participants were asked to select the child in the depicted pair that was most likely to have demonstrated a target behavior (see Ambady et al., 2001). Nine target episodes described behaviors that typify prevalent *negative* stereotypes about three racial groups: African Americans (i.e., stealing from others, acting aggressively, underperforming academically), Asian Americans (i.e., being shy, acting submissively, retaining foreign customs), and European Americans (i.e., bragging, ordering others around, excluding others). Nine target episodes described *positive* stereotypes about the same three racial groups: African Americans (i.e., being musical, playing basketball well, being rhythmic), Asian Americans (i.e., being hardworking, playing violin skillfully, excelling in math), and European Americans (i.e., being wealthy, receiving preferential treatment, acting as a leader). Younger children (3- to 4-year-olds) only heard a subset of the stereotypical episodes (the first two positive and negative episodes listed for each racial group, totaling six negative and six positive episodes), to increase the likelihood that their concentration would last through the whole task. Six nonstereotypical fillers described race-neutral behaviors (i.e., liking animals, playing outdoors, eating chocolate, listening to stories, making things with play-doh, playing on the swings). Stereotypical behaviors were chosen based on older children's (above 8 years) and early adolescents' open-ended racial stereotypes (Blake & Dennis, 1943; Maykovich, 1972; Zeligs, 1947) and commonly reported adult racial stereotypes (Lin, Kwan, Cheung, & Fiske, 2005; Madon et al., 2001; Niemann et al., 1994). The stereotypicality or neutrality of the episodes was validated through pretesting with adults.

We specifically chose to focus on racial stereotypes relevant to a school setting (e.g., academics, extracurricular activities, peer interactions), because not only may racial stereotypes limit children's potential in a number of academic and extracurricular domains, they may also exacerbate intergroup relations through enforcing self-segregation into ''acceptable'' stereotype-consistent domains (Kao, 2000).

For stereotypical episodes, we always displayed one photo of a child belonging to the racial group (African American, Asian American, or European American) targeted by the stereotype. The second photo was chosen from among the other racial groups with the stipulation that the photo chosen did not belong to the same racial group as the target photo. The racial group of the child not associated with the stereotype was randomized for each episode and counterbalanced across participants. This ensured that participants who belonged to one of the racial groups in the pair were not always making a decision that involved an in-group/out-group choice. For example, if a participant was European American, an African American stereotypical episode could include an in-group (European American) target and an out-group (African American) target or two out-group (Asian American and African American) targets. For filler episodes, the racial composition of the pairs was randomized. We counterbalanced the order in which episodes were presented and whether the target photo appeared on the left or the right. Additionally, we randomized the pairings of photo sets and episodes.

Participants practiced with two randomly selected filler episodes before moving on to the remaining 22 behavioral episodes. For example, in a behavioral episode used to gauge a positive African American stereotype, a participant would be told, ''One of these children is really good at basketball. Everyone wants him on his team because they will win. Which of these boys do you think he probably is?'' Participants were instructed to point to the child most likely to have demonstrated the behavior, and their responses were recorded. An answer was coded as stereotypical if a child picked the target in a stereotypical episode. We averaged participants' stereotyping scores across out-group episodes and in-group episodes. Thus, if a participant was European American, out-group stereotyping was composed of Asian American and African American episodes and in-group stereotyping was composed of European American episodes.

Classification Task

Using procedures reported in Bigler (1995), the classification task was composed of 16 photographs of people cropped at the waist who varied systematically on several dimensions: race (African American, European American), sex, age (children, adults), and facial expression (serious, laughing). The photographed individuals also differed with respect to a variety of other nonsystematic dimensions (e.g., clothing, posture).

The experimenter spread all the photos on a table and asked the participant to sort them into two groups such that, ''people who go together are in the same pile.'' If they were able to successfully complete a sort, they were asked to explain their sort. After the initial sort, the experimenter asked the participant if there was an additional way to sort the photos. This continued until the participant could no longer think of dimensions upon which to sort the photos.

Children who did not complete a successful sort were given a score of 0. Children who were able to sort the stimuli according to one dimension but were not able to re-sort the stimuli in a new way were given a score of 1. Children who were able to complete two such sorts were given a score of 2 (see Bigler & Liben, 1993). When scoring the sorts, coders checked that each child's explanations for their sorts matched the piles they created. For this and all subsequent coding tasks, two experimenters independently coded the responses. Overall, inter-rater agreement was high (Cohen's κ = .98), and disagreements were resolved via discussion.

Race Salience

Race salience was gauged by two measures: sorting by race in the preceding classification task and racial justification. First, those who spontaneously sorted by race in any of their sorts in the preceding classification task were given a score of 1 and those who did not sort by race at all were given a score of 0 for the sort by race variable.

Second, we measured children's use of racial justification in a second task where they described sets of photos. In this task, two arrays of six same-gender photographs, one all-White and one racially diverse, were presented to participants, counterbalanced across trials. Participants were asked whether the people in the photographs were the same or different and why they were the same or different (see Semaj, 1976). We coded for participants' use of race or skin color as a reason for being

different in the racially diverse set or as a reason for being the same in the all-White set. Children who acknowledged racial difference in either of the sets were given a score of 1 and those who did not were given a score of 0 for the racial justification variable.

The sort by race and racial justification variables were not combined into one index. Although they both indicate race salience, the first measure (sort by race) more clearly represents functional use of race, whereas the second measure (racial justification) more clearly represents noticing and describing a perceptual difference in the array. The stimuli used in the sort by race measure varied along many systematic dimensions. Thus, children's choice to sort by race meant that they preferentially used that dimension or perceived that dimension as more salient than the others, reflecting its functional use. In contrast, the stimuli used in the racial justification measure appeared similar on all dimensions, except for race, and we specifically asked children what made the pictures the same or different. Therefore, the stimuli intentionally highlighted racial differences and restricted available alternative descriptions. As a result, children's choice to report that they noticed racial differences did not involve making any trade-offs between other potential dimensions. Because of this conceptual difference, we kept the two measures separate since others have found that functional use of categories exacerbates intergroup bias compared to just noticing perceptual differences (Bigler, 1995; Bigler et al., 1997), and thus the two measures of race salience could differentially influence racial stereotyping.

Essentialist Thinking in Racial Constancy

Racial constancy was assessed both for judgments of the self and others, since we reasoned that such judgments might differentially predict a child's focus on in-group or out-group stereotypes. We modified previous tasks used to assess racial or gender constancy (Hirschfeld, 1995; Ruble et al., 2007; Semaj, 1980), targeting three core components of children's understanding of racial constancy: identification, stability, and consistency (Ruble et al., 2004).

Judgments of the self. Identification (i.e., correct identification of one's own category membership) was assessed using the question, "Are you a White big boy/girl or a Black big boy/girl?" Most participants were European American and received a White/Black comparison pair; however, if they

were Asian American or multiracial, we asked their parent or teacher for the most appropriate term to use and used Black as the alternate category. Two questions were used to assess stability (i.e., understanding race remains constant over time): "When you were a baby, were you a White baby or a Black baby?" and "When you grow up to be a man/woman will you be a White man/woman or a Black man/woman?" Lastly, consistency (i.e., understanding race is consistent across superficial transformations) was assessed by the initial question, "If you really wanted to change your skin color to be a Black man/woman could you?" and a follow-up question to reveal the reasoning underlying their initial answer (e.g., "How would you do that?" or "Why not?").

Judgments of others. We assessed stability and consistency for judgments of others using photographs matched to the participant's gender. Again, we used two indicators to assess stability: First, participants saw either a photograph of a White or 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 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?" To assess consistency, participants were shown a picture of a White child and were asked the initial question, "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 to reveal the reasoning underlying their initial answer (e.g., "How would he/she change?" or "Why can't he/she change?").

Racial constancy and essentialist reasoning. Children responses to the items relating to identification and stability were coded as correct (1) or incorrect (0). For the consistency item, we also took into account children's reasoning in coding their answer (see Ruble et al., 2007). First, children's underlying reasoning was coded for content. Children only received a (1) for the consistency item if the initial question was answered correctly *and* if the follow-up question indicated true constancy by utilizing essentialist reasoning (e.g., "He can't change. You're born one way and you can't change after that"). Finally, the scores were added together to form a composite score, with higher scores indicating a greater sense of racial constancy for the self or others.

In sum, we employed two types of broad measures: one type that gauged use of in-group and

out-group stereotypes and a second type including an assortment of variables that gauged capacities we hypothesized to be associated with the emergence of such stereotype usage. The predictor variables included factors we wanted to control for (i.e., classification skill) and two main predictors of interest: race salience (i.e., sort by race, racial justification) and essentialist thinking (i.e., composite racial constancy score for self, composite racial constancy score for others, essentialist reasoning used in the racial constancy measures).

Results

Overview of Analyses

Our primary outcome of interest was participants' use of racial stereotypes, averaged across in-group and out-group relevant episodes. Recall, participants chose which child was most likely to exhibit a behavior, and each target episode was coded as in-group stereotype or out-group stereotype relevant. First, we explored potential age group differences in children's use of both positive and negative stereotypes associated with in-groups and out-groups using a three-way analysis of variance (ANOVA). Next, we employed hierarchical multiple regressions to examine the possibility that increased understanding of race salience and essentialist thinking in racial constancy may explain unique variance in children's racial stereotype development not accounted for by other variables, such as age and classification skill.

Stereotyping

To explore age group differences in positive and negative in-group and out-group stereotyping, we submitted the stereotyping scores averaged across items to a 2 (group: in-group, out-group) × 2 (valence: positive, negative) × 4 (age group: 3–5 years, 5–6 years, 6–7 years, 7–10 years) ANOVA, with repeated measures on the first two factors (see Table 1 for all means). In a first pass, we included sex and race of the participant in the analyses, but no differences were obtained as a function of sex, race, or any of their interactions so analyses collapsed across these variables. Notably, we also found no effects of valence or interactions with valence, $Fs < 0.53$, $ps > .47$; thus, valence was not considered further. Only the main effect of age group, $F(3, 85) = 6.95$, $p < .001$, $\eta^2 = .20$, and the Group × Age Group interaction, $F(3, 85) = 3.14$,

Table 1

In-Group and Out-Group Positive and Negative Stereotyping by Age Group

Stereotype valence (year-olds)	In-group stereotyping		Out-group stereotyping	
	Positive	Negative	Positive	Negative
3–5	0.55 (0.41)	0.59 (0.34)	0.35 (0.25)	0.41 (0.25)
5–6	0.53 (0.32)	0.57 (0.25)	0.47 (0.22)	0.50 (0.20)
6–7	0.55 (0.25)	0.49 (0.24)	0.60 (0.15)	0.60 (0.23)
7–10	0.60 (0.39)	0.69 (0.35)	0.67 (0.23)	0.67 (0.15)

Note. Values are given as *M* (*SD*).

$p = .03$, $\eta^2 = .10$, were reliable. As displayed in Figure 1, children's stereotyping (both positive and negative) increased with age (main effect of age group), and children's in-group and out-group stereotyping emerged at different ages (Group × Age Group interaction). Follow-up simple-effects tests used to clarify this interaction indicated that age group differences were reliable for out-group, $F(3, 85) = 12.38$, $p < .0001$, $\eta^2 = .30$, but not in-group stereotypes, $F(3, 85) = 0.994$, $p = .40$, $\eta^2 = .03$. Bonferroni multiple comparisons used to explore the reliable age group differences in out-group stereotyping revealed that the two older groups exhibited more out-group stereotyping overall than the two younger groups. Specifically, two oldest groups ($p > .99$) and the two youngest groups ($p = .12$) did not differ significantly in their out-group stereotyping; however, the 6- to 7-year-olds ($M = 0.60$, $SD = 0.12$) exhibited more out-group stereotyping than 3- to 5-year-olds ($M = 0.38$, $SD = 0.18$, $p < .001$) and marginally more out-group stereotyping than 5- to 6-year-olds ($M = 0.49$, $SD = 0.15$, $p = .08$). The 7- to 10-year-olds ($M = 0.67$, $SD = 0.13$) exhibited more out-group stereotyping than either of the younger groups ($ps < .001$).

Next, we ran one-sample t tests to determine whether racial stereotyping occurred at above-chance levels (50%). Despite a lack of relative differences across age groups for in-group stereotyping, children did use in-group stereotypes significantly above chance in the oldest age group (7–10 years; $M = 0.65$, $SD = 0.32$), $t(15) = 1.85$, $p = .04$, $r = .43$. Consistent with age group differences for out-group stereotyping, children in the two oldest age groups (6–7 years and 7–10 years; means reported before) utilized out-group stereotypes above chance, $t(15) = 3.38$, $p = .002$, $r = .66$ and $t(15) = 5.17$ $p < .0001$, $r = .80$, respectively. Given the strong differences in out-group stereo-
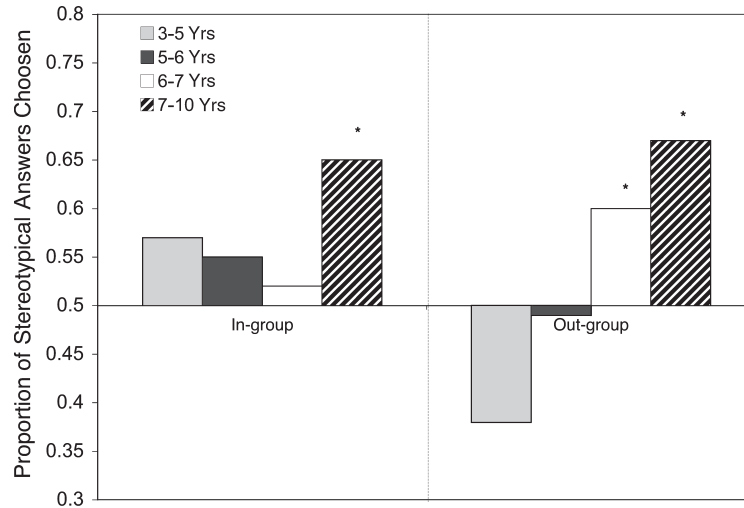
Figure 1. In-group and out-group stereotyping across age group.
Note. Asterisk indicates a significant difference from chance.

typing and the lack of relative age group differences in in-group stereotyping, we sought to explore predictors of the emergence of out-group stereotyping. We were particularly interested in whether race salience and essentialist thinking in racial constancy uniquely predicted the emergence of out-group stereotypes.

Predictors of Out-Group Stereotyping

Age Group Differences in Predictors

Although not a central focus of this article, Table 2 provides means for age group differences across all of our predictors. One-way ANOVAs revealed children improved with age on all of our predictors ($Fs > 7.8$, $ps < .001$). At least half of the children exhibited perfect classification skills, sorted by race, and used a racial justification by 5–6 years of age. Racial constancy for self and others emerged slightly later, with the majority of children achieving a perfect score around 6–7 years of age.

Hierarchical Regression

Because of the significant positive relations between racial stereotyping and many of the predictors (Table 3), we performed multiple hierarchical regressions to determine the extent to which each predictor contributed unique variance in explaining patterns of out-group stereotyping. All regressions and correlations used age as a continuous variable. Seventy-four subjects were included in this analysis, since 12 subjects did not complete racial constancy measures due to time constraints,

and an additional 3 subjects had incomplete answers for the racial justification task.

As displayed in Table 4, in Steps 1–3, we entered a number of factors for which we wanted to control in the regression: sex (0 = male, 1 = female), ethnic background (European American, Asian American, or Multiracial), children's age (in years), and classification skill (0, 1, 2). In Step 4, we entered our first predictors of interest: factors that indicated race salience (i.e., sorting by race and using a racial justification) coded as 0 = no and 1 = yes. In Step 5, we entered our final predictors of interest: factors that utilized essentialist thinking (i.e., children's racial constancy for self score and children's racial constancy for others score, respectively).

The model was significant at the second step, $F(4, 69) = 4.97$, $R^2 = .22$, $p = .001$, and remained significant across all subsequent steps through the final step, $F(9, 64) = 6.67$, $R^2 = .48$, $p < .001$. Once all variables were taken into account in the final model (see Table 4), none of the background variables (i.e., sex or race of the participant) significantly influenced out-group stereotyping. Although both age and classification skill contributed significantly to the model in earlier steps, once our predictors of interest were entered they no longer accounted for significant and unique proportions of variance in children's out-group stereotyping. As predicted, the factors that remained significant in the final model were those related to race salience and essentialist thinking: sorting by race ($\beta = .34$, $p = .003$), racial constancy for the self ($\beta = -.37$, $p = .005$), and racial constancy for others ($\beta = .49$, $p < .0001$). Note, however, that only one of our

Table 2
Age Group Differences in Predictor Variables

	Classification skills	Race salience	Racial justification	Racial constancy Self	Racial constancy Others
3- to 5-year-olds					
Mean	0.86_a (0.85)	0.14_a (0.36)	0.00_a (0.00)	1.10_a (0.97)	1.24_a (0.83)
% max score	28.6	—	—	0.00	4.80
5- to 6-year-olds					
Mean	1.72_b (0.51)	0.50_b (0.51)	0.53_b (0.51)	2.69_b (1.24)	1.89_b (0.79)
% max score	75.0	—	—	33.3	19.4
6- to 7-year-olds					
Mean	2.00_b (0.00)	0.81_b (0.40)	0.56_b (0.51)	3.38_b (0.89)	2.63_c (0.62)
% max score	100	—	—	56.3	68.8
7- to 10-year-olds					
Mean	2.00_b (0.00)	0.80_b (0.45)	0.80_b (0.45)	3.20_b (1.30)	$2.40_{b,c}$ (0.89)
% max score	100	—	—	60.0	60.0
Range	0–2	0–1	0–1	0–4	0–3

Note. Values are given as M (SD). Means in the same column that do not share subscript letters differ at $p < .05$.

Table 3
Correlations Among Variables

Variable	1	2	3	4	5	6	7	8	9
1. Sex (female = 1)	—								
2. Age	.07	—							
3. Classification skills	.10	.62***	—						
4. Sort by race	−.03	.42***	.42***	—					
5. Racial justification	−.01	.43***	.25*	.42***	—				
6. Racial constancy for self	.16	.65***	.46***	.28*	.27*	—			
7. Racial constancy for others	.19	.61***	.57***	.17	.26*	.52***	—		
8. Stereotyping	.14	.26*	.43***	.35**	.24*	.19	.45***	—	
9. In-group stereotyping	−.04	.20	.06	−.05	.00	.08	−.04	.24*	—
10. Out-group stereotyping	.23*	.57***	.40***	.38***	.29*	.15	.48***	.61***	−.06

*$p < .05$. **$p < .01$. ***$p < .001$.

measures of race salience remained significant in the final model, namely, sorting by race. Racial justification was not a significant predictor in the final model, which highlights perhaps the importance of functional use of race (i.e., using it to organize the world) opposed to merely noticing perceptual differences. In contrast, both predictors of racial constancy contributed significantly toward explaining out-group stereotyping. Specifically, racial constancy for others was associated with increased out-group stereotyping, whereas racial constancy for the self was associated with decreased out-group stereotyping. This suggests that it is essentialist thinking specific to out-groups—not essentialist thinking construed more broadly—that predicts out-group stereotyping.

Essentialist Reasoning

We delved further into children's reasoning in the racial constancy measures by coding their responses regarding whether they or another person could change their race. Responses were coded into one of four categories: no answer provided, superficial reasoning (e.g., ''paint my skin,'' ''change my clothes''), essentialist reasoning (e.g., ''you can't change your skin,'' ''White mommies have White babies''), or idiosyncratic reasoning (e.g., ''grow,'' ''don't want to change''). We then employed chi-square analyses to compare the frequency of each type of reasoning across age groups (3–5 years, 5–6 years, 6–7 years, 7–10 years). Sixty-eight subjects were included in this analysis, since 6

Table 4

Final Model of Hierarchical Regression Analyses for Out-Group Stereotyping

	B	SE B	β	R^2	F change in R^2
Step 1: Background variables				.06	1.58
Sex	.05	.03	.13		
Race dummy: Asian American	−.20	.14	−.14		
Race dummy: Multiracial	−.09	.07	−.11		
Step 2: Age				.22	14.22***
Age	.02	.02	.11		
Step 3: Classification skill				.27	3.99*
Classification skill	.02	.03	.08		
Step 4: Race salience				.33	3.29*
Sort by race	.12	.04	.34**		
Racial justification	.03	.04	.08		
Step 5: Racial constancy				.48	9.36***
Self	−.05	.02	−.37**		
Others	.09	.03	.49***		

Note. Coefficients for each variable reflect values at Step 5.
*$p < .05$. **$p < .01$. ***$p < .001$.

additional subjects completed the study without being asked why racial identity could or could not change.

Both judgments of the self, $\chi^2(9, n = 68) = 21.68$, $p = .01$, $\varphi = .56$, and others, $\chi^2(9, n = 68) = 31.04$, $p < .001$, $\varphi = .68$, changed across age groups. As displayed in Table 5, the patterns of reasoning across age groups was similar for judgments of both the self and others, except in the two younger groups. Reasoning among 3- to 5-year-olds was split between not providing a rationale for their answers reasoning ($M = 46.7\%$) and superficial reasoning ($M = 33.3\%$) for judgments about the self. These children generally did not provide a rationale for judgments about others ($M = 65.0\%$). Five- to 6-year-olds were split between not providing a rationale ($M = 20.0\%$), superficial reasoning ($M = 28.6\%$), and essentialist reasoning ($M = 37.1\%$) for judgments about the self. For judgments about others, however, these children used essentialist reasoning the most ($M = 46.7\%$) and superficial reasoning the second most ($M = 26.7\%$). For the two older age groups, children primarily used essentialist reasoning across both types of judgments (6- to 7-year-olds: $M_{self} = 78.6\%$, $M_{other} = 85.7\%$; 7- to 10-year-olds: $M_{self} = 75.0\%$, $M_{other} = 75.0\%$). However, only essentialist reasoning about *others* predicted out-group stereotyping, $r = .26$, $p = .03$. Essentialist reasoning about the *self* did not predict in-group or out-group stereotyping, $rs = −.07$, .15; both $ps > .21$.

Discussion

This research investigated the development and antecedents of children's racial stereotypes. These initial displays of stereotyping, around 6 years of age, were mainly restricted to out-group stereotypes but, importantly, involved the use of both positive and negative stereotypes. Our results provide empirical evidence that two critical factors—race salience and essentialist thinking—uniquely contribute to children's out-group stereotyping. Such a finding dovetails with recent theoretical work outlining the bases of racial stereotyping (Bigler & Liben, 2007). Consistent with a social-motivational model (e.g., Nesdale, 1999), neither age nor a measure of cognitive skill independently predicted out-group stereotyping. Children only oriented themselves toward out-group stereotypes once race became a functionally salient dimension and they developed a sense of the out-group as an essential category.

Stimulus salience has been shown to play a pivotal role in how individuals process social category information (Taylor, 1981). As race becomes a salient dimension to children, they may begin to organize information around racial categories and consequently form social stereotypes. Note that it was *not* children's mere mention of race as a descriptor (i.e., their use of a racial justification in describing a set of faces) that predicted the acquisition of out-group stereotypes but rather children's spontaneous use of race as a sorting dimension. In other words, children's functional *use* of race as an important organizing dimension in their world may facilitate racial stereotyping above and beyond children merely *noticing* perceptual racial differences (see Bigler et al., 1997; Bigler et al., 2001). As predicted, European American, racial majority children, who tend to have a less salient racial identity than racial minority children in the United States (McGuire & McGuire, 1988; Phinney, 1992), learned more stereotypes about out-group members before stereotypes about their own group. Thus, others' but not their own racial group membership was a distinctive dimension they noticed and used to formulate stereotypes.

Finally, children's understanding of racial constancy played a significant role in their use of out-group stereotypes, providing support for several theories that have proposed such a relation should exist (e.g., Aboud, 1988; Kohlberg, 1966). Racial constancy for *others* predicted increases in out-group stereotyping and racial constancy for the *self* predicted decreases in out-group stereotyping. One

Table 5
Percentage of Children Who Report Different Types of Reasoning to Explain Why or Why They Could Not Change to a Different Race

Type of reason (year-olds)	Racial constancy for self				Racial constancy for others			
	None	Superficial	Essentialist	Idiosyncratic	None	Superficial	Essentialist	Idiosyncratic
3–5	46.7	33.3	6.7	13.3	65.0	10.0	15.0	10.0
5–6	20.0	28.6	37.1	14.3	13.3	26.7	46.7	13.3
6–7	7.1	0.0	78.6	14.3	7.1	7.1	85.7	0.0
7–10	0.0	25.0	75.0	0.0	0.0	25.0	75.0	0.0

difference between the two tasks that could explain this difference in predictive power is that one relied primarily on images (racial constancy for others), whereas the other required knowledge of verbal labels (racial constancy for the self). While a plausible explanation, both tasks required knowledge of a verbal label to pass the task. Instead, we believe that this difference may be accounted for by the ease with which children essentialize the out-group versus the in-group and the effect that essentialist thinking applied to the out-group or in-group has on intergroup perceptions. Future research should certainly attempt to disentangle these factors and how they affect the emergence of racial stereotyping.

Although not a central focus of this study, children reliably demonstrated racial constancy, specifically for others, around 6 years of age. While this finding is inconsistent with Hirschfeld's (1995) work, it supports other studies on racial constancy (Rutland et al., 2005). Our measure also examined children's explanatory constructs, which may tap a more nuanced understanding of children's essentialist thinking, whereas Hirschfeld's method may tap a nascent biological theory. Importantly, this examination of children's explanatory constructs revealed that they steadily utilized more essentialist reasoning with increases in age, and that essentialist reasoning, specifically about others, predicted increases in out-group stereotyping. Thus, as children start to essentialize out-groups, they may also become aware of stereotypes associated with these groups.

The mechanisms involved in children's acquisition of racial stereotypes are likely to be complex and influenced by myriad factors. While race salience and essentialist thinking may provide the scaffolding for racial stereotype acquisition, the content of these stereotypes is drawn from cultural knowledge in the child's social milieu. For example, explicit information presented in books, TV, or educational curricula, and implicit or explicit information communicated by family, teachers, or friends may provide specific stereotype content (Bar-Tal, 1997). Additionally, implicit patterns of information available in the environment, such as segregation in schools or stratification of certain occupations in society may also furnish stereotype content (Bigler, Arthur, Hughes, & Patterson, 2008; Bigler & Liben, 2007). A number of additional factors, besides race salience and essentialist thinking are likely to be implicated in racial stereotyping as well (Bigler & Liben, 2007). For example, children's acquisition of racial stereotypes may be intertwined with their conceptions of status. Studies with adults have argued that more powerful groups (namely, the racial majority) attribute more stereotypes to those lower in the hierarchy to justify and legitimize their power (Yzerbyt et al., 1997). Young children are aware of status differentials (Bigler et al., 2003; Nesdale & Flesser, 2001) and, like adults, may try to rationalize observed inequities and status differences in society, serving to reinforce stereotypes of lower status groups.

While race salience may be a natural developmental acquisition in an environment where race is functionally important, racial stereotyping may not be an inevitable consequence of racial categorization or cognitive development. Certain social-contextual factors encourage more or less essentialist thinking about race, which provide scaffolding for children to make errors in judgment (i.e., stereotype) based on race. Future research should explore the types of contexts that minimize essentialist thinking about race and the types of educational strategies that curb the impact of pervasive explicit and implicit racial associations available in the environment. Moreover, this study suggests an implied underlying model of how age, cognitive skills, racial constancy, race salience, and essentialism work in concert to influence racial stereotyping. Future research should test this model explicitly using path analysis or structural equation modeling.

Relation Between Racial Stereotyping and Attitudes

While we have concentrated solely on racial stereotyping, racial attitudes surely constitute a sizable section of a child's racial knowledge toolbox. Children exhibit a reliable in-group bias early on, some as young as 3, well before the emergence of racial stereotyping documented in the present study (e.g., Nesdale, 2001). While many have interpreted this in-group bias as evidence that children possess negative racial attitudes, others have questioned the validity of this claim, arguing these findings reflect in-group preferences rather than true out-group derogation (e.g., Cameron et al., 2001; Pfeifer et al., 2007). Thus, while young children can label and organize their world by race early on—skills conducive to in-group preferences—they might not be able to symbolize an underlying concept and its associated attributes until they form a coherent essentialist theory about race.

The recognition of race as a psychologically salient dimension, early social preferences, and biological lay theories that all presumably develop in the preschool years provides a solid foundation upon which this developing system of social cognition—including both racial attitudes and stereotypes—can be built. Similar to racial stereotyping, a number of motivational factors may contribute to racial preferences becoming full-fledged racial attitudes, such as an explicit norm of prejudice in the environment or tension over limited resources (Nesdale, 2004). Thus, while children may have the foundation for racial attitudes and stereotypes early on, a host of motivational factors promote their consolidation into underlying concepts that guide behavior.

Limitations

Our sample included mainly racial majority (i.e., European American) children. The findings and models did not change when the sample of Asian American and multiracial children were removed from analyses. The one exception was that the comparison of in-group stereotyping to chance was no longer significant in the oldest age group—consistent with our conclusion that European American, majority children are primarily learning out-group stereotypes.

It will be important for future research to explore these processes with racial minority children. Since minorities in the United States have racial identities that are often perpetually salient and distinctive (McGuire & McGuire, 1988; Phinney, 1992), they may be more likely to learn both in-group relevant and out-group relevant stereotypes at an earlier age. Crucially, research should also consider how these processes work specifically with multiracial children whose existence challenges binary views of race. Racial constancy should not necessarily be thought of as the optimal ''end-state.'' Multiracial children's racial identification often changes with context or time (Hitlin, Brown, & Elder, 2006), and they may develop more flexible theories about race that can mitigate the negative effects of stereotyping.

The diversity of children's surrounding environment is another important factor to consider. Our sample of children attended schools and lived in neighborhoods primarily composed of European Americans. Both school and neighborhood diversity may shape racial stereotyping in important ways, through changing children's individual cognitions (e.g., level of racial awareness), the function of stereotypes in that particular environment, and exposure to explicit and implicit racial associations. Future research should explore factors that predict the emergence of racial stereotypes in minority and multiracial populations and how structural aspects of the environment can shape the emergence of stereotyping. Additionally, although our study deliberately focused on a wide age range, future research should home in on factors that magnify race salience and exacerbate essentialist thinking in 3- to 6-year-olds.

On Preventing Stereotypes

Given that once stereotypes are formed they are highly resistant to change, especially in adults, and can affect critical real-world outcomes, such as children's academic performance (Ambady et al., 2001; McKown & Weinstein, 2003), our results lend important insight into age-appropriate interventions that may result in meaningful change. While change should be possible, since past studies have demonstrated that children's racial attitudes and preferences are malleable (e.g., Cameron, Rutland, & Brown, 2007; Katz & Zalk, 1978), less research has provided evidence for substantial change in children's racial stereotyping (but see Killen & Stangor, 2001). This may be due to a number of social-cognitive mechanisms that actually support stereotype maintenance in children (Bigler & Liben, 1993; Corenblum, 2003).

This research suggests that two potential factors play a key role in stereotyping racial out-groups: race salience and race-specific essentialist thinking.

Mitigating these factors should precipitate positive change. Interventions aiming to reduce race salience may be difficult to implement without making large-scale changes in a child's environment; however, recent studies with adults have demonstrated the ability to manipulate essentialist thinking about groups (e.g., Levy et al., 1998; Plaks et al., 2001). Thus, interventions aimed altering racial stereotypes may best be accomplished by directly manipulating children's pattern of thinking about racial groups. If children learn that race is not necessarily an immutable category and that even if the physicality of skin color is often immutable, it does not necessarily convey stable information about psychological attributes, perhaps they will be less susceptible to stereotyping others and to the adverse effects of stereotyping themselves.

References

Aboud, F. E. (1988). *Children and prejudice*. Oxford, UK: Blackwell.

Aboud, F. E., & Ruble, D. N. (1987) Identity constancy in children: Developmental processes and implications. In T. M. Honess & K. M. Yardley (Eds.), *Self and identity: Individual change and development* (pp. 95–107). London: Routledge and Kegan Paul.

Ambady, N., Shih, M., Kim, A., & Pittinsky, T. L. (2001). Stereotype susceptibility in children: Effects of identity activation on quantitative performance. *Psychological Science*, 12, 385–390.

Apfelbaum, E. P., Pauker, K., Ambady, N., Sommers, S. R., & Norton, M. I. (2008). Learning (not) to talk about race: When older children underperform in social categorization. *Developmental Psychology*, 44, 1513–1518.

Bar-Haim, Y., Ziv, T., Lamy, D., & Hodes, R. M. (2006). Nature and nurture in own-race face processing. *Psychological Science*, 17, 159–163.

Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes: Evidence of race evaluations from ages 6 and 10 and adulthood. *Psychological Science*, 17, 53–58.

Bar-Tal, D. (1996). Development of social categories and stereotypes in early childhood: The case of ''the Arab'' concept formation, stereotype, and attitudes by Jewish children in Israel. *International Journal of Intercultural Relations*, 20, 341–370.

Bar-Tal, D. (1997). Formation and change of ethnic and national stereotypes: An integrative model. *International Journal of Intercultural Relations*, 21, 491–523.

Bastian, B., & Haslam, N. (2006). Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology*, 42, 228–235.

Bigler, R. S. (1995). The role of classification skill in moderating environmental influences on children's gender stereotyping: A study of the functional use of gender in the classroom. *Child Development*, 66, 1072–1087.

Bigler, R. S., Arthur, A. E., Hughes, J. M., & Patterson, M. M. (2008). The politics of race and gender: Children's perceptions of discrimination and the U. S. presidency. *Analyses of Social Issues and Public Policy*, 8, 1–30.

Bigler, R. S., Averhart, C. A., & Liben, L. S. (2003). Race and the workforce: Occupational status, aspirations, and stereotyping among African American children. *Developmental Psychology*, 39, 572–580.

Bigler, R. S., Brown, C. S., & Markell, M. (2001). When groups are not created equal: Effects of group status on the formation of intergroup attitudes in children. *Child Development*, 72, 1151–1162.

Bigler, R. S., Jones, L. C., & Lobliner, D. B. (1997). Social categorization and the formation of intergroup attitudes in children. *Child Development*, 68, 530–543.

Bigler, R. S., & Liben, L. S. (1993). A cognitive-developmental approach to racial stereotyping and reconstructive memory in Euro-American children. *Child Development*, 64, 1507–1518.

Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science*, 16, 162–166.

Blake, R., & Dennis, W. (1943). The development of stereotypes concerning the Negro. *Journal of Abnormal and Social Psychology*, 38, 525–531.

Cameron, J. A., Alvarez, J. M., Ruble, D. N., & Fuligni, A. J. (2001). Children's lay theories about in-groups and out-groups: Reconceptualizing research on prejudice. *Personality and Social Psychology Review*, 5, 118–128.

Cameron, L., Rutland, A., & Brown, R. (2007). Promoting children's positive intergroup attitudes towards stigmatized groups: Extended contact and multiple classification skills training. *International Journal of Behavioral Development*, 31, 454–466.

Corenblum, B. (2003). What children remember about in-group and out-group peers: Effects of stereotypes on children's processing of information about group members. *Journal of Experimental Child Psychology*, 86, 32–66.

Gelman, S. A. (2003). *The essential child: Origins of essentialism in everyday thought*. Oxford, UK: Oxford University Press.

Gelman, S. A., & Wellman, H. M. (1991). Insides and essences: Early understandings of the non-obvious. *Cognition*, 38, 213–244.

Hamilton, D. L., & Trolier, T. K. (1986). Stereotypes and stereotyping: An overview of the cognitive approach. In J. Dovidio & S. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 127–163). San Diego, CA: Academic Press.

Hirschfeld, L. A. (1995). Do children have a theory of race? *Cognition*, 54, 209–252.

Hitlin, S., Brown, J. S., & Elder, G. H. Jr. (2006). Racial self-categorization in adolescence: Development and social pathways. *Child Development*, 77, 1298–1308.

Hughes, D. (1997). Racist thinking and thinking about race: What children know but don't say. *Ethos*, 25, 117–125.

Kao, G. (2000). Group images and possible selves among adolescents: Linking stereotypes to expectations by race and ethnicity. *Sociological Forum*, 15, 407–430.

Katz, P. A., & Zalk, S. R. (1978). Modification of children's racial attitudes. *Developmental Psychology*, 14, 447–461.

Kelly, D. J., Quinn, P. C., Slater, A. M., Lee, K., Gibson, A., Smith, M., et al. (2005). Three-month-olds, but not newborns, prefer own-race faces. *Developmental Science*, 8, F31–F36.

Killen, M., & Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer groups contexts. *Child Development*, 72, 174–186.

Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. In E. E. Maccoby (Ed.), *The development of sex differences* (pp. 82–173). Stanford, CA: Stanford University Press.

Levy, S. R., & Dweck, C. S. (1999). The impact of children's static versus dynamic conceptions of people on stereotype formation. *Child Development*, 70, 1163–1180.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality and Social Psychology*, 74, 1421–1436.

Lin, M. H., Kwan, V. S. Y., Cheung, A., & Fiske, S. T. (2005). Stereotype content model explains prejudice for an envied out-group: Scale of anti-Asian American stereotypes. *Personality and Social Psychology Bulletin*, 31, 34–37.

Maddox, K. B., & Gray, S. A. (2002). Cognitive representations of Black Americans: Reexploring the role of skin tone. *Personality and Social Psychology Bulletin*, 28, 250–259.

Madon, S., Guyll, M., Aboufadel, K., Montiel, E., Smith, A., Palumbo, P., et al. (2001). Ethnic and national stereotypes: The Princeton trilogy revisited and revised. *Personality and Social Psychology Bulletin*, 27, 996–1010.

Maykovich, M. (1972). Reciprocity in racial stereotypes: White, black, and yellow. *American Journal of Sociology*, 77, 876–897.

McGuire, W. J., & McGuire, C. V. (1988). Content and process in the experience of self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 97–144). New York: Academic Press.

McKown, C., & Weinstein, R. S. (2003). The development and consequences of stereotype consciousness in middle childhood. *Child Development*, 74, 498–515.

Medin, D. L., & Ortony, A. (1989). Psychological essentialism. In S. Vosniadou & A. Ortony (Eds.), *Similarity and analogical processing* (pp. 179–195). New York: Cambridge University Press.

Nesdale, D. (1999). Social identity and ethnic prejudice in children. In P. Martin & W. Noble (Eds.), *Psychology and society* (pp. 92–110). Brisbane: Australian Academic Press.

Nesdale, D. (2001). The development of prejudice in children. In M. A. Augoustinos & K. J. Reynolds (Eds.), *Understanding Prejudice, Racism, and Social conflict* (pp. 57–73). London: Sage.

Nesdale, D. (2004). Social identity processes and children's ethnic prejudice. In M. Bennett & F. Sani (Eds.), *The development of the social self* (pp. 219–245). New York: Psychology Press.

Nesdale, D., & Flesser, D. (2001). Social identity and development of children's group attitudes. *Child Development*, 72, 506–517.

Niemann, Y. F., Jennings, L., Rozelle, R. M., Baxter, J. C., & Sullivan, R. (1994). Use of free responses and cluster analysis to determine stereotypes of eight groups. *Personality and Social Psychology Bulletin*, 20, 379–390.

Olson, K. R., & Dweck, C. S. (2008). A blueprint for social cognitive development. *Perspectives on Psychological Science*, 3, 193–202.

Patterson, M. M., & Bigler, R. S. (2006). Preschool children's attention to environmental messages about groups: Social categorization and the origins of intergroup bias. *Child Development*, 77, 847–860.

Pfeifer, J. H., Ruble, D. N., Fuligni, A. J., Bachman, M. A., Alvarez, J. M., & Cameron, J. A. (2007). Social identity and intergroup attitudes in immigrant and non-immigrant children. *Developmental Psychology*, 43, 496–507.

Phinney, J. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7, 156–176.

Plaks, J. E., Stroessner, S. J., Dweck, C. S., & Sherman, J. W. (2001). Person theories and attention allocation: Preferences for stereotypic versus counterstereotypic information. *Journal of Personality and Social Psychology*, 80, 876–893.

Rowley, S. J., Kurtz-Costes, B., Mistry, R., & Feagans, L. (2007). Social status as a predictor of race and gender stereotypes in late childhood and early adolescence. *Social Development*, 16, 150–168.

Ruble, D. N., Alvarez, J. M., Bachman, M. A., Cameron, J. A., Fuligni, A. J., Garcia Coll, C., et al. (2004). The development of a sense of ''we'': The emergence and implications of children's collective identity. In M. Bennett & F. Sani (Eds.), *The development of the social self* (pp. 29–76). East Sussex, UK: Psychology Press.

Ruble, D. N., Taylor, L. J., Cyphers, L., Greulich, F. K., Lurye, L. E., & Shrout, P. E. (2007). The role of gender constancy in early gender development. *Child Development*, 78, 1121–1136.

Rutland, A., Cameron, L., Bennett, L., & Ferrell, J. (2005). Interracial contact and racial constancy: A multi-site study of racial intergroup bias in 3-5 year old Anglo-British children. *Applied Developmental Psychology*, 26, 699–713.

Semaj, L. (1976). The development of racial-classification abilities. *Journal of Negro Education*, 50, 41–47.

Semaj, L. (1980). The development of racial evaluation and preference: A cognitive approach. *Journal of Black Psychology*, 6, 59–79.

Taylor, M. (1996). The development of children's beliefs about social and biological aspects of gender differences. *Child Development, 67*, 1555–1571.

Taylor, M., Rhodes, M., & Gelman, S. (2009). Boys will be boys; cows will be cows: Children's essentialist reasoning about gender categories and animal species. *Child Development, 80*, 461–481.

Taylor, S. E. (1981). A categorization approach to stereotyping. In D. L. Hamilton (Ed.), *Cognitive processes in stereotyping and intergroup behavior* (pp. 88–114). Hillsdale, NJ: Erlbaum.

Yzerbyt, V. Y., Corneille, O., & Estrada, C. (2001). The interplay of subjective essentialism and entitativity in the formation of stereotypes. *Personality and Social Psychology Review, 5*, 141–155.

Yzerbyt, V. Y., Rocher, S. J., & Schadron, G. (1997). Stereotypes as explanations: A subjective essentialistic view of group perception. In R. Spears, P. Oakes, N. Ellemers, & A. Haslam (Eds.), *The psychology of stereotyping and group life* (pp. 20–50). Oxford, UK: Blackwell.

Zeligs, R. (1947). Children's intergroup concepts and stereotypes. *Journal of Educational Sociology, 21*, 113–126.