

Special issue article

How social experience is related to children's intergroup attitudes

HEIDI McGLOTHLIN¹* AND MELANIE KILLEN²**

¹*Nashville, USA*

²*Department of Human Development, University of Maryland,
College Park, USA*

Abstract

Intergroup attitudes were assessed in 7 and 10 years old European American and African American children from ethnically heterogeneous schools and in 7 and 10 years old European American children from ethnically homogeneous schools in order to test hypotheses about racial biases and judgments regarding cross-race peer interactions (N = 302). Using an Ambiguous Situations Task, the findings revealed that European American children attending homogeneous schools displayed racial bias in their interpretations of ambiguous situations as well as in their evaluations of cross-race friendship. Bias was not found, however, in the interpretations and evaluations of European American or African American children from heterogeneous schools. This study is the first to empirically demonstrate significant and direct relationships between intergroup contact in the school environment and children's intergroup biases as well as judgments about the potential for cross-race friendships. Copyright © 2010 John Wiley & Sons, Ltd.

Research on children's intergroup attitudes continues to evolve and expand our understanding of the roots and development of bias relating to another's group membership. As research on implicit bias in adults has produced impressive findings and gained much media attention in the past decade (see Dovidio, Kawakami, & Beach, 2001; Gaertner & Dovidio, 2005; Nosek, Greenwald, & Banaji, 2005), recent work examining the developmental origins and trajectory of implicit bias has opened a new window of understanding of children's intergroup attitudes (see Banaji, Baron, Olson, & Dunham, 2008; Baron & Banaji, 2006; Dunham, Baron, & Banaji, 2006; Rutland, 2004; Rutland, Cameron, Milne, & McGeorge, 2005). Implicit bias has been most commonly measured in adults using the Implicit Association Test (IAT; Greenwald & Banaji, 1995), which is a computer-based assessment of the association of positive or negative adjectives to faces. Recently, studies using the IAT with children have demonstrated the presence of implicit bias in European American children as young as six with little or no change in these attitudes with age (Baron & Banaji, 2006; Dunham et al., 2006; Rutland et al., 2005; Sinclair, Dunn, & Lowery, 2005).

Studies assessing explicit intergroup attitudes, commonly in the form of forced-choice trait assignment (i.e., children are asked to assign positive and negative adjectives to pictures of White or Black characters), have found that explicit intergroup attitudes become more egalitarian with age (see Bigler & Liben, 1993; Doyle & Aboud, 1995). Using this methodology, findings reveal that young European American children assign positive traits to their own group and negative traits to the other group, while older European American children assign positive and negative traits to both groups. Thus, young children display bias on both implicit and explicit bias assessments, while older children continue to

*Correspondence to: Heidi McGlothlin. E-mail: heidimcglothlin@hotmail.com

**Correspondence to: Melanie Killen, Department of Human Development, 3304 Benjamin Building, University of Maryland, College Park, MD, 20742, USA. E-mail: mkillen@umd.edu

show implicit bias but report fewer explicit biases. What remains to be investigated is when and how bias, implicit or explicit, manifests in children's decision-making about interracial peer encounters.

The focus of the present study, in contrast to the work with the IAT and explicit assessments, was to examine intergroup attitudes, using direct and indirect methods, about children's everyday social lives, and as a function of their social experience with members of outgroups. To test children's intergroup attitudes, typical peer situations depicting a potential wrongdoing involving either a Black transgressor or a White transgressor were shown to children for their interpretation of the motives of the characters. Bias was measured by assessing differences in interpretations of the situations based on race of the transgressor (unbeknownst to the participant). What makes this methodology different from the IAT is that bias is measured in the context of peer encounters rather than as an association between adjectives and faces. Moreover, the Ambiguous Situations Task involves reflective judgments, even though the participant is unaware of the measure of interracial bias. This measure is referred to as an indirect measure of bias rather than as an implicit measure, which refers to unconscious, automatic processes (see Killen, McGlothlin, & Henning, 2008, for a comparison of implicit and indirect measures of bias in childhood). Past research using a similar methodology revealed biases but had limitations with sampling and stimulus items (Lawrence, 1991; Sagar & Schofield, 1980; for a review of the sampling limitations, see McGlothlin, Killen, & Edmonds, 2005).

A recent line of research demonstrated that European American children enrolled in homogeneous schools displayed negative racial bias when interpreting intentions in ambiguous interracial peer encounters (McGlothlin & Killen, 2006). Bias was not found, however, in the responses of European American children enrolled in heterogeneous schools (McGlothlin et al., 2005). While evidence of bias was found for African American children enrolled in heterogeneous schools in that behaviors of White transgressors were rated as worse than behaviors of Black transgressors on one question, bias was not found in the responses of other ethnic minority (i.e., Latino American and Asian American) children (Margie, Killen, Sinno, & McGlothlin, 2005).

Although these studies provided information regarding how children, from both ethnic majority and ethnic minority backgrounds, evaluate ambiguous cross-race peer encounters, a direct comparison between these samples of children and between both forms of school experience (heterogeneous and homogeneous) regarding the attribution of negative intentions in interracial peer encounters has not been conducted. This is important as it will provide new evidence regarding the role of social experience. Does the diversity of the school environment relate to children's evaluations of cross-race peer interactions?

As is well known, social psychologists have long theorized that increased intergroup contact, under the right conditions, can improve intergroup attitudes and relations (Allport, 1954; Pettigrew & Tropp, 2005). The majority of these studies, however, included college students as participants and examined contact on group membership categories such as college major, nationality, or artificial groups, with few studies actually examining interracial peer group contact, especially in early childhood. A significant body of work has examined intergroup contact as a function of school desegregation (see Kurlaender & Yun, 2001; Stephan, 2002). These findings have been mixed, however, due to the global measurements used to assess attitudes as well as to the complexity in assessing the quality of intergroup contact in forced desegregated school environments (see Stephan, 2002, for the limitations of this research). In the present study, we collected data from three samples of young children (European American and African American children attending ethnically heterogeneous schools and European American children attending ethnically homogeneous schools).

As well as examining the impact of school environment on children's interpretations of interracial encounters, a direct comparison of these three samples of children will also determine whether the bias found in responses of European American children attending homogeneous schools is a form of outgroup negativity or of ingroup bias, a distinction important for designing prejudice reduction programs, and not known without a scientifically designed comparison. In order to further examine the distinction between ingroup and outgroup bias, African American children from ethnically heterogeneous schools, but not Latino American or Asian American children from Margie et al. (2005) were included in the current analyses. Thus, for all children, the characters depicted in the ambiguous situations represented the ingroup or the outgroup. Moreover, because ethnicity differences have only been examined within the sample of ethnic minority children (African American, Latino, and Asian American), the current study is the first to report any differences between European American and African American children's interpretations of ambiguous interracial encounters.

In addition to examining children's attributions of intentions, another goal of the current study was to examine children's decision-making about cross-race friendships as a function of social experience. Cross-race friendships are one of the most influential types of intergroup contact in terms of the positive impact on racial attitudes (Tropp & Prenovost,

2008). Having a friend of a different race or ethnicity decreases the tendency to homogenize the outgroup (i.e., assume that members of the outgroup are "all alike"). Cross-race friendships also increase awareness of the harmfulness of stereotypes and discrimination. Unfortunately, cross-race friendships are infrequent in childhood and continue to decline in number with age (Aboud, Mendelson, & Purdy, 2003; Graham & Cohen, 1997). Understanding why cross-race friendships are rare and short-lived is important to the improvement of intergroup relations and requires an understanding of children's decision-making about these relationships.

Bias reflected in attributions of negative intent is one potential reason for the low number of intergroup friendships. For instance, if a European American child perceives an African American child as aggressive, that child is less likely to be chosen as a playmate. In order to examine children's decision-making about cross-race friendships and how bias in attributions of motives impacts these decisions, we asked children to decide whether the two children could be friends after they evaluated the initial encounter, which measured their decision about the potential for friendship between the two characters in the ambiguous situations. Because only separate analyses of these samples of children have been conducted, systematic differences between children in homogeneous or heterogeneous schools in their judgments of cross-race friendship potential have not been verified. Ethnicity differences between African American and European American children's decision-making regarding cross-race friendships have yet to be determined as well. The current report will be the first to examine these differences in children's judgments of cross-race friendship potential.

In sum, a task was designed to assess bias in three samples of children (varying in ethnicity and school composition by ethnicity) by administering a measure of attributions of intentions and judgments about friendship potential in ambiguous interracial encounters involving a Black character and a White character. For each of four potential moral transgressions (e.g., hitting, pushing, cheating, and stealing), there were two versions, one in which the potential transgressor was White and another in which the potential transgressor was Black.

While some findings with these data sets have been reported previously (see Margie et al., 2005; McGlothlin & Killen, 2006; McGlothlin et al., 2005), no analyses regarding direct comparisons of the experiences of children in these schools has been conducted, nor have any direct analyses been conducted for the comparison between the European American and African American samples (who match the race of the characters in the scenarios). By analyzing the three samples directly, we were able to examine the effect of school environment (homogeneous or heterogeneous) on European American children's interpretations of behavior and judgments about cross-race friendships. Without this comparison, only general assumptions could be made about differences between samples. Similarly, a direct comparison allows for the examination of ethnicity differences. Do European American children view ambiguous cross-race encounters differently than African American children? Moreover, do the biases reflect ingroup positivity or outgroup negativity?

Our hypotheses were that bias would be expressed as a function of ethnicity, social experience, gender, and age. Specifically, based on prior studies on interracial bias, we expected European American children to interpret the behavior of the outgroup member as more negative than the same behavior of the ingroup member when this person was a potential transgressor (Lawrence, 1991; Sagar & Schofield, 1980). This was also expected to be more pronounced in the European American sample attending homogeneous rather than heterogeneous schools based on intergroup contact theory (see Pettigrew & Tropp, 2000). Past findings on African American children's interracial bias have been mixed, with some findings indicating a negative bias toward the ingroup (Sagar & Schofield, 1980) and other findings revealing no bias toward ingroup or outgroup (Lawrence, 1991) in the interpretation of ambiguous situations. Surprisingly, there are very few studies focusing solely on African American children's ingroup bias. Most of the research on African American children's intergroup attitudes has focused on explicit judgments about exclusion (Killen, Lee-Kim, McGlothlin, & Stangor, 2002) and not on implicit or indirect measures of bias. Based on recent findings (see Brown, 1995; Margie et al., 2005), we expected that all children, European American and African American, would demonstrate positive ingroup bias more often than outgroup negativity (Brewer, 1999; Rutland, 2004). That is, we expected European American children to rate the behaviors of White transgressors more positively than African American children rate the behaviors of White transgressors. Conversely, African American children's ratings of Black transgressors were expected to be more positive than the European American children's ratings of Black transgressors.

Given previous findings on interactions between gender and ethnicity (Killen et al., 2002), we expected that European American males would display greater bias than females and African American males. Studies using explicit attitude measures have documented a decline in bias with age (Aboud, 2003); however, studies assessing implicit bias have found no change in bias with age (Dunham et al., 2006). Thus, we hypothesized that age-related differences in bias regarding attributions of intentions in the ambiguous encounters would be in the direction of less bias in older children's responses.

European American children from homogeneous schools were furthermore expected to judge cross-race friendship as less likely than African American or European American children from heterogeneous schools based on prior findings (Aboud et al., 2003). Moreover, we hypothesized that European American females and African American males and females would be more likely than European American males to consider cross-race friendship as possible (see Killen & Stangor, 2001). Judgments of cross-race friendship potential were also expected to decrease with age based on findings from Aboud et al. (2003).

METHOD

Participants

Participants were 302 children attending 1st grade ($N = 158$, $M = 6.80$ years) and 4th grade ($N = 144$, $M = 9.82$ years) in elementary schools in a metropolitan area in the Mid-Atlantic region. Samples were drawn from two types of schools. One type, referred to as ethnically heterogeneous, had school populations that were <65% European American. The second type, referred to as ethnically homogeneous had school populations that were >85% European American. From the heterogeneous schools, there were two samples: European American and African American. Thus, there were three samples of children: heterogeneous-European American ($N = 94$), heterogeneous-African American ($N = 70$), and homogeneous-European American ($N = 138$), evenly divided by gender and grade. All schools were middle-income.

Procedure and Assessments

The interview consisted of two tasks, one of which, the *Ambiguous Situations Task*, is reported presently. In the Ambiguous Situations Task, participants were shown eight picture cards depicting four potential moral transgressions: stealing money, not sharing toys, cheating on a test, and pushing someone off a swing. There were two versions of each situation: one in which the potential transgressor was White and the potential victim was Black, and one in which the potential transgressor was Black and the potential victim was White. A filler task was introduced half-way through the Ambiguous Situations Task in order to distract from the versions of the cards. Order of the cards was counterbalanced. Each half of the task consisted of two versions with a Black potential transgressor and two versions with a White potential transgressor.

After viewing the picture card, participants were asked four questions pertaining to their interpretations of the situation. The first question asked, "What do you think happened in this picture?" Next, participants were asked to rate the initial action of the potential transgressor on a 9-point Likert scale, ranging from very, very good to very, very bad. The third question asked, "What do you think X (potential transgressor) will do next?" Participants were then asked to rate the subsequent action of the potential transgressor on the 9-point scale. The final question focused on children's judgments regarding friendship between the two characters ("Do you think X and Y could be friends?" 1 = yes; 0 = no).

Intergroup Contact

An intergroup contact assessment, administered to European American children in the homogeneous sample, measured how much contact these participants had with African Americans. Participants were shown picture cards of five different groups of people which ranged from all European American to all African American. Participants were asked which group of people looked most like the people in their town, their neighborhood, their school, on their teams or clubs, in their friendships, and in their family. Results confirmed that the vast majority of the students had little contact with African American children or adults (see McGlothlin, 2004, for details).

Although no intergroup contact assessment was administered to children enrolled in the heterogeneous school, previous research conducted in these same schools documented the intergroup contact environment, which was generally positive,

with equal status (few SES differences) and fostered by school authority personnel (see McGlothlin et al., 2005, for details).

RESULTS

The Likert scale for the Ambiguous Situations Task was converted from negative scaling ($-4, -3, -2, -1, 0, +1, +2, +3, +4$) to a positive scaling ($1, 2, 3, 4, 5, 6, 7, 8, 9$), with $1 =$ very, very good to $9 =$ very, very bad, for purposes of analyses. Dichotomous responses for the friendship potential assessment were coded 0 (no) or 1 (yes). No significant effect for order of presentation was found for any dependent measure.

A 2 (grade: 1st, 4th) \times 2 (gender: male, female) \times 3 (sample: heterogeneous-European American, heterogeneous-African American, homogeneous-European American) \times 2 (race of transgressor: White, Black) \times 4 (scenario: Stealing, Not Sharing, Cheating, Pushing) ANOVA with repeated measures on the last two factors was conducted on the initial action rating. A race of transgressor \times sample interaction, $F(2, 290) = 12.02, p < .001, \eta_p^2 = .08$ revealed that, as expected, homogeneous-European American participants differed in their ratings from heterogeneous-European American and heterogeneous-African American participants. Supporting our hypothesis regarding ingroup bias, the difference in ratings was for the White transgressors; participants did not differ in their ratings of the Black transgressors ($M = 6.50$ for homogeneous-European American; $M = 6.27$ for heterogeneous-African American; $M = 6.49$ for heterogeneous-European American). Homogeneous-European American participants ($M = 5.90$) rated the White transgressors more positively than did heterogeneous-European American ($M = 6.44$) and heterogeneous-African American ($M = 6.68$) participants, $p < .05$ (see Figure 1), thus indicating the presence of an ingroup bias rather than outgroup negativity for homogeneous-European American children.

Analysis of the subsequent action rating was examined by conducting a 2 (grade) \times 2 (gender) \times 3 (sample) \times 2 (race of transgressor) \times 4 (scenario) ANOVA with repeated measures on the last two factors. A race of the transgressor \times sample interaction, $F(2, 289) = 7.68, p < .001, \eta_p^2 = .05$, revealed that homogeneous-European American participants ($M = 5.10$) rated the subsequent action of the White transgressors as more positive than did heterogeneous-European American participants ($M = 4.13$), $p < .01$, another indication of an ingroup bias for the homogeneous sample. The heterogeneous-African American participants ($M = 4.58$) did not differ from either European American group. Again, the samples did not differ in their ratings of the Black transgressors ($M = 5.03$ for homogeneous-European American; $M = 4.41$ for heterogeneous-African American; $M = 5.07$ for heterogeneous-European American).

A 2 (grade) \times 2 (gender) \times 3 (sample) \times 2 (race of transgressor) \times 4 (scenario) ANOVA with repeated measures on the last two factors was conducted on the friendship potential assessment. A race of the transgressor \times sample interaction, $F(2, 290) = 4.62, p < .01, \eta_p^2 = .03$, indicated that homogeneous-European American participants were more likely to judge the two characters as friends when the transgressor was White ($M = .60$) than Black ($M = .52$), $p < .01$ (see Figure 2), revealing a racial bias regarding friendship potential for this sample. Judgments of cross-race friendship potential by children attending heterogeneous schools did not differ based on race of the transgressor. Moreover, the homogeneous-European American participants ($M = .52$) were significantly less likely to judge friendship as possible when the transgressor was Black than were heterogeneous-European American ($M = .72$) and African American participants

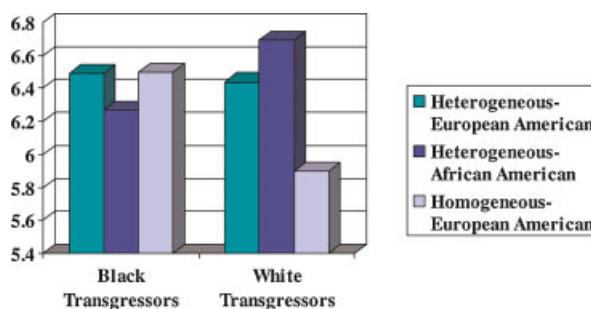


Figure 1. Initial action ratings of potential transgressors. Note: $N = 302$. $1 =$ very, very good; $9 =$ very, very bad

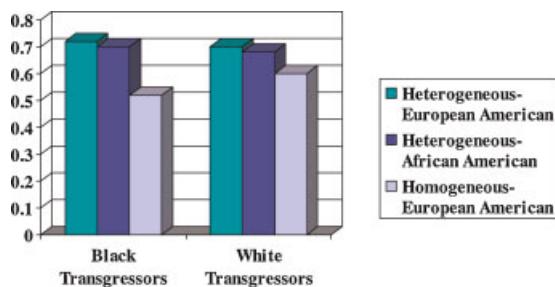


Figure 2. Judgments of friendship potential. Note: $N = 302$. 1 = yes, the two characters are friends; 0 = no, the two characters are not friends

($M = .70$), $ps < .001$. The homogeneous-European American participants ($M = .60$) were also less likely to judge friendship as possible when the transgressor was White than were heterogeneous-European American participants ($M = .70$), $p < .05$. Homogeneous-European American participants' judgments of friendship potential when the transgressor was White did not differ, however, from those of heterogeneous-African American participants ($M = .68$).

Finally, a between-subjects effect for sample further illuminated the importance of social experience on children's friendship judgments, $F(2, 290) = 11.43$, $p < .001$, $\eta_p^2 = .07$. In line with our hypotheses, homogeneous-European American participants ($M = .56$) judged the potential for friendship as lower overall than did heterogeneous-European American ($M = .71$) and heterogeneous-African American ($M = .69$) participants, $ps < .01$. Moreover, and supporting our age-related hypothesis, the potential for friendship between the Black character and White character was judged as lower by 4th graders ($M = .57$) than by 1st graders ($M = .70$), $F(1, 290) = 19.81$, $p < .001$, $\eta_p^2 = .06$. Also, as expected, females ($M = .66$) judged friendship as more likely than did males ($M = .61$), $F(1, 290) = 8.48$, $p < .05$, $\eta_p^2 = .03$.

DISCUSSION

This is the first empirical study to directly and systematically document a statistically demonstrated relationship between children's intergroup school environment and their intergroup biases in the context of peer relationships. European American children attending homogeneous school environments were more likely to demonstrate an *ingroup* racial bias when evaluating peer situations, and were less likely to judge that cross-race dyads could be friends than were European American or African American children attending heterogeneous schools.

There has been extensive theorizing about the role of intergroup contact on prejudice reduction, but very few studies have investigated this relationship in early childhood, and this is particularly the case with respect to race and ethnicity (see Pettigrew & Tropp, 2000; Tropp & Prenovost, 2008). Yet, Allport (1954)'s classic hypotheses about intergroup contact were specifically generated to understand racial prejudice in childhood. Therefore, documenting the complex relationship of social experience and racial biases in childhood is, then, fundamental, novel, and informative, particularly regarding intervention programs.

Further aiding the development of intervention programs, ingroup bias was found to be distinct from outgroup negativity (see Aboud, 2003; Brewer, 1999; Rutland, 2004), and more striking, this relationship was qualified by the diversity of children's school environment. European American children attending homogeneous schools did not attribute more negative motives to the Black transgressors than did the children attending heterogeneous school. Instead, these children interpreted the behavior of ingroup members more positively. European American and African American children attending heterogeneous schools did not display ingroup bias or outgroup negativity when evaluating the ambiguous situations. In fact, the African American and European American children from heterogeneous schools were less different in their pattern of responses than were the two European American samples. A unique feature of this study was the inclusion of three samples of children, European American children in homogeneous schools, European American in heterogeneous schools, and African American children in heterogeneous schools. Most research focuses only on European American children, and little research examines the effect of school environment. The inclusion of multiple samples enabled us to test hypotheses about ingroup bias, outgroup negativity, and cross-race friendship judgments.

Interestingly, we did not find that intergroup contact reduced outgroup negativity (only ingroup bias), which differs from the traditional intergroup contact findings (Tropp & Prenovost, 2008). This may reflect the fact that stereotypes about outgroups only emerge during the elementary school years, and the participants in this sample were 6 and 9 years old. Thus, the participants in this study may not yet have acquired negative stereotypes about the outgroups (although this was not measured and thus this thesis requires further examination). One might conjecture, though, that ingroup bias develops prior to outgroup negativity; this hypothesis could be examined in a future study in conjunction with an examination of stereotype awareness (see McKown & Weinstein, 2003) and social experience in a sample of young children.

Children's judgments about cross-race friendship also differed according to school environment. While over two-thirds of the children who experience diversity in the school environment were optimistic about the potential for friendship between the Black character and the White character, only half of the European American children, with little intergroup contact, viewed friendship between the pair as possible. Infrequent cross-race friendships in childhood may lead to the inference that these friendships are not feasible. This direct connection remains to be empirically tested. Indeed, findings from a perceptions of similarity task also administered to the present sample indicated that the European American children attending homogeneous schools viewed friendship between a White child and a Black child as less likely than did children attending heterogeneous school even in a neutral condition (McGlothlin & Killen, 2005). We propose that harboring bias, in the form of increased ingroup bias, may serve as a significant predictor for the decline in cross-race friendships reported in the literature given that ingroup bias reflects an ingroup preference (Aboud et al., 2003; Graham & Cohen, 1997; McGlothlin, Edmonds, & Killen, 2007). While the impact of social experience on intergroup attitudes evidenced in children's judgments of cross-race friendship potential supports our proposition, other predictors, including parental attitudes and peer group norms, warrant closer investigation in order for a clear understanding of children's decision-making about cross-race friendships to emerge.

The decline in positive judgments about cross-race friendship with age in the present study mirrors findings that the number of cross-race friendships declines with age (Aboud et al., 2003; Graham & Cohen, 1997). This developmental finding is intriguing given that bias did not increase with age with regard to attributions of negative intent. Thus, similar to findings that implicit bias, as measured by the IAT, does not change over middle childhood, older children in the present study did not differ from younger children in their attributions of intent. They did, however, view friendship between the cross-race dyad as more unlikely.

Although the hypothesis that European American males would display more bias in their ratings of transgressors than would females and African American males was not supported, we did find that males, overall, judged cross-race friendship as less likely than did females. This finding adds to others indicating that females are more inclusive in terms of gender and race than males (see Killen et al., 2002; Killen & Stangor, 2001). Given that gender has been found to be a significant factor in determining intergroup attitudes, a closer examination is needed. The effect of experiences of discrimination should be investigated with respect to the gender findings. For instance, females may have more personal experience of exclusion and discrimination than have males, particularly European American males, and this may lead them to display fewer intergroup biases. Because of the importance of cross-race friendships in the reduction of prejudice, more work needs to be conducted to understand children's decision-making about these relationships (McGlothlin et al., 2007).

In sum, the present findings provide new evidence illustrating how intergroup attitudes impact children's judgments in social interactions with peers, as well as their decision-making about cross-race friendships. By sampling children from different ethnic backgrounds and school environments, the findings present new support for the importance of social experience on children's judgments about interracial relationships. The findings also contribute to our understanding of the social context of children's intergroup attitudes. While most explicit and implicit measures assess bias in a global and decontextualized manner, the present methodology examined bias in the context of children's everyday lives. In contrast to explicit trait-assignment techniques, children were not required to make positive or negative judgments of the outgroup at the expense of their ingroup when responding to the Ambiguous Situations Task. Thus, distinctions between ingroup bias and outgroup negativity were discernable. Although the Ambiguous Situations Task assessed children's attitudes without directly focusing on race, self-presentation concerns exist, especially for children attending heterogeneous schools where sensitivity to racial and ethnic attitudes are likely elevated. However, similar to findings from studies employing the IAT, intergroup bias did not decrease with age. Optimally, a combination of explicit and implicit, direct and indirect, measures would be used in future research in order to gain a more comprehensive understanding of intergroup biases in childhood.

A number of additional limitations and considerations should be addressed in future work as well. One important next step is to directly assess children's intergroup contact experiences, both quantitatively and qualitatively (Hewstone, Rubin,

& Wills, 2002; Tropp & Prenovost, 2008). Understanding children's perceptions about their intergroup contact (the extent to which they report having cross-ethnic friends and relationships) provides direct information for determining the type of intervention that will successfully reduce bias. Moreover, while the current study documented children's judgments about cross-race friendship potential in relation to the diversity of their school environment, it is important that future work investigate children's decision-making in actual cross-race relationships as well as in positive encounters (as opposed to negative or neutral/ambiguous encounters). Manipulating the valence of the encounter may shed light on developmental differences, such as a greater sensitivity to the negative impact of conflict on friendship by older children. Furthermore, longitudinal studies are needed in order to confidently explain age differences in decision-making about cross-race friendships.

An additional limitation of the current study is the lack of an African American sample enrolled in homogeneous schools. In the present findings, school environment was the significant factor pertaining to intergroup bias. Responses of European American children from heterogeneous schools resembled those of African American children from heterogeneous schools to a greater extent than those of European American children from homogeneous schools. A stronger case for the importance of diversity in the school would be made if this pattern also held true for African American children. In an endeavor to include African American children attending homogeneous schools, however, it would be important to match schools on socio-economic status, due to the importance of equal standing on the outcomes of intergroup contact (Allport, 1954). Unfortunately in the United States, locating schools with students from predominantly African American *and* middle-class socioeconomic backgrounds is difficult, but inclusion of this sample is an important future step.

It should also be noted that while the current study focused on African American and European American children's intergroup biases, intergroup attitudes impact relations between members of all groups. Ingroup bias, as well as outgroup negativity, may vary according to the group targeted. For instance, a study by Dunham, Baron, and Banaji (2007) found that Hispanic American children exhibited implicit ingroup preference when comparing themselves to African Americans but not when comparing themselves to European Americans. It is unclear from the current data if the ingroup bias displayed by European American children attending homogeneous schools when evaluating encounters between White and Black characters would also be evident when evaluating encounters between White and Hispanic characters or White and Asian characters. How limited intergroup contact impacts generalized as well as individualized outgroup attitudes remains to be investigated.

Moreover, a closer examination of the school environment in both heterogeneous and homogeneous settings would contribute to a broader understanding of its effects. For instance, in a school with a diverse student population, situations involving intergroup cooperation, as well as conflict, would arise more often than in a school with a homogeneous student population. The discourse surrounding intergroup relations may vary greatly across schools, as well as within both types of schools (homogeneous and heterogeneous).

As demonstrated by the present findings, developing techniques to reduce bias in homogeneous populations is important. Intervention programs such as one based on the Common Ingroup Identity model (Cameron & Rutland, 2008; Houlette, Gaertner, Johnson, Bunker, Riek, & Dovidio, 2004) could be effective given that multiple categories are considered in the model (beyond race and ethnicity). Given that our findings revealed ingroup bias rather than outgroup negativity, this distinction should be taken into account in intervention programs. Ingroup bias often reflects a high level of ingroup identification. Facilitating an awareness that this identification has the potential to result in differential treatment of others may be an effective aspect for intervention programs to focus on.

We propose that understanding the explicit and implicit relationships between intergroup contact and intergroup attitudes in childhood is an understudied area of research. Yet, this area of research is essential to examine in order to effectively reduce racial (and other forms of) bias. Adult stereotypes are deeply ingrained and often quite difficult to change. Thus, investigating intergroup biases in childhood using contextual as well as context-free assessments and examining how social experience shapes these attitudes is a significant step towards understanding and addressing the problem of prejudice.

ACKNOWLEDGEMENTS

The research described in this paper was supported by a grant from the National Science Foundation (#BCS-0346717). The authors thank Stefanie Sinno, Nancy Geyelin Margie, and Christina Edmonds for their contributions to the line of

research reported in this paper. In addition, Alexandra Henning, Avital Herbin, Suzanne Lebida, Anita Mazzocchi, Tiffany Puckett, Nicole Putnam-Frenchik, Nicole Searfoss, and Solmaz Zabedian assisted with data collection. The authors extend our appreciation to the students who participated in the study, and to the teachers, principals, and administrative staff who allowed us to conduct the study in their school districts.

REFERENCES

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology, 39*, 48–60.

Aboud, F. E., Mendelson, M. J., & Purdy, P. (2003). Cross-race peer relations and friendship quality. *International Journal of Behavioral Development, 27*, 165–173.

Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

Banaji, M. R., Baron, A. S., Dunham, Y., & Olson, K. (2008). The development of intergroup social cognition: Early emergence, implicit nature, and sensitivity to group status. In S. R. Levy, & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 87–102). Oxford, England: Oxford University Press.

Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes. *Psychological Science, 17*, 53–58.

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.

Brewer, M. B. (1999). The psychology of prejudice: In-group love or out-group hate? *Journal of Social Issues, 55*, 429–444.

Brown, R. (1995). *Prejudice: Its social psychology*. Cambridge, MA: Blackwell.

Cameron, L., & Rutland, A. (2008). An integrative approach to changing children's intergroup attitudes. In S. R. Levy, & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 191–203). Oxford, UK: Oxford University Press.

Dovidio, J. F., Kawakami, K., & Beach, K. (2001). Implicit and explicit attitudes: Examination of the relationship between measures of intergroup bias. In R. Brown, & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology: Vol. 4. Intergroup relations* (pp. 175–197). Oxford, England: Blackwell.

Doyle, A. B., & Aboud, F. E. (1995). A longitudinal study of white children's racial prejudice as a social-cognitive development. *Merrill-Palmer Quarterly, 41*, 209–228.

Dunham, Y., Baron, A. S., & Banaji, M. R. (2006). From American city to Japanese village: A cross-cultural investigation of implicit race attitudes. *Child Development, 77*, 1268–1281.

Dunham, Y., Baron, A. S., & Banaji, M. R. (2007). Children and social groups: A developmental analysis of implicit consistency in Hispanic Americans. *Self and Identity, 6*, 238–255.

Gaertner, S. L., & Dovidio, J. F. (2005). Categorization, recategorization and intergroup bias. In J. F. Dovidio, P. Glick, & L. Rudman (Eds.), *Reflecting on the nature of prejudice: Fifty years after Allport*. Malden, MA: Blackwell.

Graham, J. A., & Cohen, R. (1997). Race and sex factors in children's sociometric ratings and friendship choices. *Social Development, 6*, 355–372.

Greenwald, A. D., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4–27.

Houlette, M., Gaertner, S. L., Johnson, K. M., Banker, B. S., Riek, B. M., & Dovidio, J. F. (2004). Developing a more inclusive social identity: An elementary school intervention. *Journal of Social Issues, 60*, 35–55.

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53*, 575–604.

Killen, M., Lee-Kim, J., McGlothlin, H., & Stangor, C. (2002). How children and adolescents evaluate gender and racial exclusion. *Monographs of the Society for Research in Child Development 67* (4, Serial No. 271). Oxford, England: Blackwell.

Killen, M., McGlothlin, H., & Henning, A. (2008). Explicit judgments and implicit bias: A developmental perspective. In S. R. Levy, & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 126–145). New York: Oxford University Press.

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

Kurlaender, M., & Yun, J. T. (2001). Is diversity a compelling educational interest? Evidence from Louisville. In G. Orfield (Ed.), *Diversity challenged: Evidence on the impact of affirmative action* (pp. 111–141). Cambridge, MA: Harvard Educational Publishing Group.

Lawrence, V. W. (1991). Effect of socially ambiguous information on White and Black children's behavioral and trait perceptions. *Merrill-Palmer Quarterly, 37*, 619–630.

Margie, N., Killen, M., Sinn, S., & McGlothlin, H. (2005). Minority children's intergroup attitudes about peer relationships. *British Journal of Developmental Psychology, 23*, 251–269.

McGlothlin, H. (2004). Children's decision-making about social relationships: The impact of similarity, racial attitudes, and intergroup contact. Doctoral dissertation, University of Maryland, 2004. *Dissertation Abstracts International, 65*(03), 1580.

McGlothlin, H., Edmonds, C., & Killen, M. (2007). Children's and adolescents' decision-making about intergroup peer relationships. In S. M. Quintana, & C. McKown (Eds.), *Handbook of race, racism, and the developing child* (pp. 424–451). Hoboken, NJ: John Wiley & Sons.

McGlothlin, H., & Killen, M. (2005). Children's perceptions of intergroup and intragroup similarity and the role of social experience. *Applied Developmental Psychology*, 26, 680–698.

McGlothlin, H., & Killen, M. (2006). Intergroup attitudes of European American children attending ethnically homogeneous schools. *Child Development*, 77, 1375–1386.

McGlothlin, H., Killen, M., & Edmonds, C. (2005). European American children's intergroup attitudes about peer relationships. *British Journal of Developmental Psychology*, 23, 227–249.

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

Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality & Social Psychology Bulletin*, 31, 166–180.

Pettigrew, T. F., & Tropp, L. R. (2000). Does intergroup contact reduce prejudice? Recent meta-analytic findings. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 93–112). Mahwah, NJ: Lawrence Erlbaum.

Pettigrew, T. F., & Tropp, L. R. (2005). Allport's intergroup contact hypothesis: Its history and influence. In J. F. Dovidio, P. Glick, & L. Rudman (Eds.), *Reflecting on the nature of prejudice: Fifty years after Allport*. Malden, MA: Blackwell.

Rutland, A. (2004). The development and self-regulation of intergroup attitudes in children. In M. Bennett, & F. Sani (Eds.), *The development of the social self* (pp. 247–265). East Sussex, England: Psychology Press.

Rutland, A., Cameron, L., Milne, A., & McGeorge, P. (2005). Social norms and self-presentation: Children's implicit and explicit intergroup attitudes. *Child Development*, 76, 451–466.

Sagar, H. A., & Schofield, J. W. (1980). Racial and behavioral cues in Black and White children's perceptions of ambiguously aggressive acts. *Journal of Personality and Social Psychology*, 39, 590–598.

Sinclair, S., Dunn, E., & Lowery, B. S. (2005). The relationship between parental racial attitudes and children's implicit prejudice. *Journal of Experimental Social Psychology*, 41, 283–289.

Stephan, W. G. (2002). Improving intergroup relations in the schools. In C. H. Rossell, D. J. Armor, & H. J. Walberg (Eds.), *School desegregation in the 21st century* (pp. 267–290). Washington, DC: Brookings Institute Press.

Tropp, L., & Prenovost, M. (2008). The role of intergroup contact in predicting children's inter-ethnic attitudes: Evidence from meta-analytic and field studies. In S. R. Levy, & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 236–248). Oxford: Oxford University Press.

Copyright of European Journal of Social Psychology is the property of John Wiley & Sons Ltd. 1996 and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.