

Children and Social Groups: A Developmental Analysis of Implicit Consistency in Hispanic Americans

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We investigated the development of three aspects of implicit social cognition (self-esteem, group identity, and group attitude) and their interrelationships in Hispanic American children (ages 5 to 12) and adults. Hispanic children and adults showed positive implicit self-esteem and a preference for and identification with their in-group when the comparison group was another disadvantaged minority group (African American). However, challenging the long-held view that children's early intergroup attitudes are primarily egocentric, young Hispanic children do not show implicit preference for or identification with their in-group when the comparison was the more advantaged White majority. Results also supported predictions of cognitive-affective balance in the youngest children. Strikingly, balance was absent in adults, suggesting that in disadvantaged minority groups, cognitive-affective consistency may actually decline with age.

Attitudes about the self serve as primary organizers of social cognition, including preferences and beliefs that drive action. For example, attitudes about oneself and one's social group are often closely interrelated, showing how group membership and group status in the larger society shape the individual (Aberson, Healy, & Romero, 2000; Greenwald et al., 2002; Jackson, 2002; Valk, 2000).

One of the most striking results from the past five decades of research on the person–group relationship is the idea of in-group favoritism (e.g., Plous, 2002). From the random assignment of a person to a group by birthplace or family, to the more self-selected affiliations with politics, sports, or profession, belonging to a group regularly produces favoring of one's own group—a fact so commonplace as to seem natural and even warranted. However, this form of in-group favoritism may not be so robust when one's in-group is viewed in a less favorable light by

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the larger society (e.g., see Jost & Banaji, 1994). In these cases, members of socially disadvantaged groups often do not reveal a preference for their own group, at least when implicit, less conscious measures of such preferences are utilized to test attitudes (Nosek, Banaji, & Greenwald, 2002; Jost, Banaji, & Nosek, 2004).

Does the absence of in-group preference have consequences for self-esteem and group identification? This question was placed in the context of theories of cognitive-affective consistency by Greenwald and colleagues (Greenwald et al., 2002). They posited that the self occupies a central position in mental life, and from this basic assumption generated a set of predictions about expected interrelationships among self-esteem, group identity and group attitudes (see also Heider, 1958). These expectations took the form of interactions. To the extent that the self was associated with an in-group and the in-group was favorable, the self was also expected to be favorable, at least when these constructs were measured at the implicit level. For example, Whites high on both implicit self-esteem and identification with Whites tend to show strong implicit preference for Whites.

However, being a member of a disadvantaged group may pose a threat to cognitive-affective balance. If members of a socially disadvantaged group internalize culturally prevalent negative associations of their in-group, then forming positive associations with the group might threaten other aspects of self-esteem and self-identity. Protecting self-esteem might require the inhibition of positive attitudes towards the in-group, or even the avoidance of balance all together. These possibilities dovetail with the findings that implicit in-group preference is absent in disadvantaged minorities at the population level (for adults, Nosek et al., 2002; for adolescents, Baron, Shusterman, Bordeaux, & Banaji, 2004), but implicit self-esteem is not markedly lower in these groups (Baron et al., 2004; Nosek et al., 2002; Pelham & Hetts, 1999; Verkuyten, 2005; see Crocker & Major, 1989, for a similar pattern of findings for explicit self-esteem). What is more, preliminary examinations of cognitive-affective balance in non-majority or non-privileged populations also support this possibility. Balance among African Americans was the weakest of the tests presented by Greenwald and colleagues in their initial formulation of the balanced identity model (Greenwald et al., 2002), and balance was considerably weaker for students at relatively less-valued compared to more-valued university residential colleges (Lane, Mitchell, & Banaji, 2005). This pattern of findings can be explained by the idea that when the in-group is disparaged, this particular form of cognitive-affective consistency is avoided, possibly as a means of protecting self-esteem. If correct, it challenges the ubiquity of in-group favoritism and raises questions about inequities in person-group identity imposed on members of the minority.

In the research to be presented here, we turned our attention to Hispanic Americans, a minority group that has been largely ignored in research on implicit social cognition (but see Weyant, 2005). We examined the implicit attitudes among this group toward their in-group when the in-group was compared to another disadvantaged minority (African Americans) as well as an advantaged majority (White Americans). We also measured their implicit identifications with each group and their implicit self-esteem. Finally, we examined the interrelationships among these components of implicit social cognition to observe the degree of consistency among these components, allowing a test of the central predictions, and possible limitations, of the balanced identity framework.

Attitudes and other social psychological constructs do not emerge for the first time, fully formed, at age 18; we know that these mental structures have antecedents in early childhood. Indeed, children devote much energy to attempting to understand

their own place in the world, including the impressions that others have of them and the groups to which they belong (Eisenberg, Losoya, & Guthrie, 1997). However, little empirical attention has been devoted to examining *implicit* social processes from a developmental perspective, perhaps because of the practical challenges of working with children and the methodological hurdles that need to be cleared in adapting existing implicit methodologies for use with them (but see McGlothlin, Killen, & Edmonds, 2005, who investigated implicit processes using children's interpretations of ambiguous situations). These hurdles have now been overcome (Baron & Banaji, 2006; Dunham, Baron, & Banaji, 2006; Rutland, Cameron, Milne, & McGeorge, 2005), and we argue that a developmental focus is particularly critical when investigating components of social cognition that are as basic as attitudes toward self and group; in these cases, the developmental processes that give rise to stable attitudes may reveal much about the nature of the adult "end state."

Do young children from a disadvantaged group initially exhibit positive attitudes towards their in-group that are then gradually undone? If so, what are the consequences for group identification and self-esteem? Most broadly, there is now considerable evidence that childhood experiences do affect adult implicit attitudes in multiple domains (for a review, see Rudman, 2004), and that parent-child implicit attitudes do relate, especially for children who identify strongly with their parents (Sinclair, Dunn, & Lowery, 2005). Furthermore, Rutland and colleagues (Rutland et al., 2005) found that, like adults, 6-year-old children's self-reported group attitudes are affected by self-presentational demands, while their implicit attitudes are not, suggesting that the implicit constructs function similarly in children and adults. In our own research, we found that implicit race attitudes in majority populations both in the USA and Japan are present in adult-like magnitude as early as we can successfully measure them (by age 5-6), and that the strength of these attitudes shows little change over the course of development (Baron & Banaji, 2006; Dunham et al., 2006).

These developmental studies of implicit social cognition have all focused on members of the advantaged majority in the USA, Europe, and Japan. There are reasons to believe that being a member of a minority group may predispose children to be particularly sensitive to social status cues (e.g., Aboud, 1988; Tropp & Wright, 2003), perhaps because in this case social status information about the in-group conflicts with a tendency towards in-group favoritism and egocentrism more broadly (e.g., Jost & Burgess, 2000). Thus minority children's implicit attitudes may be the result of a more dynamic psychological management, one that includes balancing egocentrism with socially learned values and potentially yielding a different developmental pattern. Studying their emergence is an important step towards understanding the mental life of minority children and hence the influence of social hierarchies on associated mental structures. It may also be a place to expect limits on the expected balance among affective-cognitive components that have been studied under the label of cognitive consistency (Greenwald et al., 2002).

Method

Participants

In total, 234 elementary school students and 71 adults participated in the study. Elementary school students were recruited from summer programs affiliated with

two elementary schools in Houston, TX, and adults were recruited from public locations in the surrounding community. All participants were of Latin American descent and were predominately Spanish–English bilinguals living in Hispanic communities in the Houston area. The children were between ages 5 years 6 months and 12 years 2 months ($M = 8$ years 7 months, $SD = 1$ year 7 months), with roughly equal number of children between the ages of 6 and 11. Adults were between 18 and 24 years of age. Figure 1 presents the overall age breakdown of all participants.

Parental consent for child participants was secured in advance of all testing, and compensation was limited to a small toy. Adults were compensated with \$5 in exchange for their participation.

Implicit Materials

Measures of implicit social cognition consisted of the child friendly version of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998), the child IAT, developed by Baron and Banaji (2006; see also Dunham et al., 2006). The IAT is a speeded dichotomous categorization task that estimates the relative strength of association between pairs of concepts. The speed and accuracy with which a social group concept such as Hispanic can be paired with attributes such as Good or Bad, versus the speed and accuracy with which the concept White can be paired with the same attributes of Good and Bad, is taken as a measure of the relative implicit attitude toward these social groups. The greater the speed and accuracy of pairing Hispanic + Good/White + Bad versus Hispanic + Bad/White + Good, the greater the assumed implicit positive attitude toward the group Hispanic relative to White.

The IAT has received extensive empirical validation, and demonstrates acceptable levels of reliability (Cunningham, Preacher, & Banaji, 2001), construct validity (Banaji, 2001; Greenwald & Nosek, 2001), and predictive validity (Poehlman, Uhlmann, Greenwald, & Banaji, 2005). The child IAT involves two major changes to

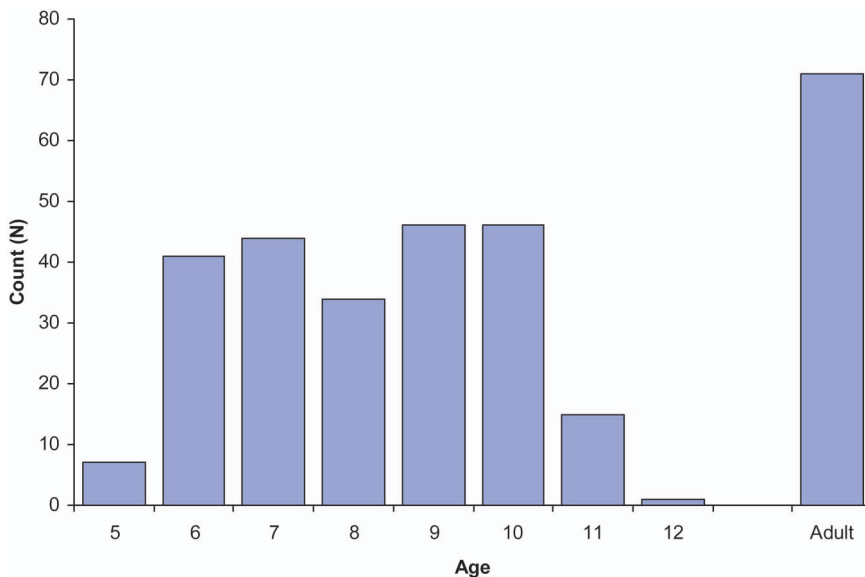


FIGURE 1 Histogram of participant ages.

the traditional procedure. First, to avoid reliance on reading ability, written stimuli are not used. Social groups are presented via consensually identifiably faces of group members (as is often the case with the adult IAT, although the faces used here were faces of children) and Good and Bad words are presented auditorily via headphones. Second, to reduce reliance on fine motor ability that may disadvantage the youngest children faced with using a traditional computer keyboard, we replaced the keyboard with two large response buttons for left and right responses. Several studies have now used this method and have found that children as young as age 5 are readily able to complete the procedure and produce analyzable data in multiple domains (Baron & Banaji, 2006; Baron, Dunham, & Banaji, 2005; Dunham et al., 2006).

Participants in this study, both children and adults, completed three child IATs. These were: a self-esteem IAT, in which self-relevant and other-relevant words were paired with positive and negative adjectives (see Appendix for a list of all stimulus words used across all child IATs); a Hispanic attitude IAT (pairing photographs of Hispanic and Black or White children with positive and negative adjectives); and a Hispanic identity IAT (pairing photographs of Hispanic and Black or White children with self-relevant and other-relevant words). In other words, while all participants completed three tests (self-esteem, group identity, group attitude), half the participants paired the Hispanic in-group with a White out-group, and half paired the Hispanic in-group with an African American out-group.

Auditory stimuli for this experiment were recorded by native English and Spanish speakers (to provide participants' dominant language; see procedure) as high-fidelity digital recordings, and were back translated by different native speakers to ensure accuracy and ease of comprehension. To ensure that self-relevant stimuli would not cross any salient social category boundaries, male participants heard a male voice for all self-relevant or other-relevant words and a female voice for all pleasant and unpleasant adjectives, while female participants received the opposite voice pairings.

Explicit Materials

Explicit measures were included but they were not of primary interest in this investigation, as past investigations of cognitive consistency have not found balance at the explicit level (Greenwald et al., 2002). As such, they appeared at the end because of concern that the youngest children may not be able to complete all measures in a single session (although almost all children were able to complete the entire experiment). For self-esteem, 5-point Likert-type items assessed self-liking, perception of being liked by others, and ability at school and games (see Appendix for all scale items). These four items were then averaged to produce a single self-esteem measure. The group attitude measure consisted of forced choice options of dichotomous preferences for one of two children, presented via photographs and matched on gender, who differed along racial/ethnic lines. Pairs included Hispanic and White, Hispanic and African American, and White and African American. The trials with Hispanic in-group photos were analyzed, and for each contrast the percentage of trials on which the Hispanic in-group was selected was computed. The group identification measure was similar, but instead of seeking a report of preference, for each pair the participant stated who they thought they were most similar to; here too we produced a single measure for each contrast, indicating the percent of trials on which the Hispanic in-group member was selected as more similar to self.

In designing these explicit measures, we sought a format that was comparable to the IAT (e.g., involving a dichotomous judgment of preference, as compared to the IAT's dichotomous categorization as good or bad). However, it was not clear how to achieve this for a self-esteem measure. For example, the overall tendency towards a positivity bias in children (see Stipek & MacIver, 1989, for a review) makes it unlikely that we would *ever* get explicit pairings of the self with bad in a dichotomous choice task. This led us to the scalar measure discussed above, which was able to produce some variability despite its structural divergence from the IAT.¹ Unfortunately, our explicit self-esteem measure exhibited low reliability (Cronbach's $\alpha = .41$), pointing to the need to develop a better assessment tool for this construct.

Procedure

Child participants completed the experiment in a private room at their school. Adults participated in field settings in the community. All participants completed the study on a laptop computer and were tested one-on-one with an experimenter present to instruct and answer questions. Data collection was conducted by both White and Hispanic experimenters. Children completed the procedure in the dominant language, Spanish or English, while adults completed the procedure in Spanish. Otherwise, the experimental protocol and all measurement items were identical for adults and children.

All participants completed three child IATs including measures of self-esteem, group attitude, and group identification. For the latter two measures, participants were randomly placed in one of two conditions. In both conditions, the in-group was consistently Hispanic but the comparison out-group—White or African American—was varied as a between-subjects factor (thus the sample sizes for these measures are always approximately half that of the self-esteem IAT).

Results and Discussion

The race of experimenter (White or Hispanic), the test language (English or Spanish), and participant gender did not significantly affect our results, and so we collapsed across these variables for our principal analyses.

Scoring Procedure for the Child IAT

Child IATs were scored using the scoring algorithm prescribed by Greenwald, Nosek, and Banaji (2003), based on its superior performance in analyses of large web-based data collections. The method produces an effect size estimate (the IAT *D* effect, a variant of Cohen's *d*) for each participant on each IAT test, as well as exclusion criteria for individual trials and individual participants, which were used here. We made one deviation from the procedure outlined in the scoring algorithm, a change necessitated by the mixed modality presentations of stimuli (see Baron & Banaji, 2006, for more detailed discussion). While pictures generally produce more rapid responses than words, this difference is magnified in the child IAT because of the auditory presentation of evaluative words. This essentially created two independent but interspersed distributions, one for visual and one for auditory stimuli. Failing to account for this difference would lead to underestimation of actual effect sizes because of the artificial inflation of response latency variance caused by the two overlapping distributions. To correct for this, we computed two IAT

D measures for each participant, one corresponding to the auditory stimuli and one to the visual stimuli, and then averaged these two D scores to determine that participant's final score.²

Results for Implicit and Explicit Measures

All participants completed three child IATs including measures of self-esteem, group attitude, and group identification. Table 1 summarizes the overall child IAT results for children and adults.

Self-esteem. Child IAT data from five child participants were eliminated due to prescribed exclusion criteria in Greenwald et al. (2003). On average, child participants were faster to respond to the self + good pairing, compared to the reverse pairing of self + bad, revealing a relative positive association between self and good attributes, $D = .11$, $t(228) = 5.19$, $p < .0001$. Submitting self-esteem scores to a regression analysis with participant age as a predictor revealed no effect of age, $F(1, 228) = 0.93$, $p > .33$, allowing us to collapse across age in subsequent analyses.

Turning to adults, the mean effect of implicit self-esteem was also significantly positive, $D = .09$, $t(70) = 2.21$, $p < .04$, and no significant difference between adult and child self-esteem emerged, $t(298) = 0.38$, $p > .70$. This finding replicates several previous reports of positive implicit self-esteem in non-majority samples (Baron et al., 2004; Nosek et al., 2002; Pelham & Hetts, 1999; Verkuyten, 2005), and is the first to directly compare children's and adult's implicit self-esteem. Of course, it is still possible that minorities who live in integrated settings with members of the majority (as opposed to our participants, who lived in a predominately Hispanic community) might show lower self-esteem (see Gray-Little & Hafdahl, 2000; Verukyten & Thijs, 2002, for some evidence to support this possibility). However, it should also be noted that other populations theorized to be lower in self-esteem (e.g., Japanese) turn out to have equivalent, high levels of self-esteem when measurements are made at the implicit level (Yamaguchi et al., 2006).

Nonetheless, the effect sizes we observe here are notably smaller than those found in other studies using the IAT. For example, three representative studies all found average implicit self-esteem effect sizes equivalent to $D > .92$ in predominately majority samples (Greenwald & Farnham, 2000; Lane et al., 2005; Rudman, Greenwald, & McGhee, 2001).³ By contrast, the mean effect size here, collapsing across adults and children, is $D = .11$. Of course, our measure, the child IAT, is different from the traditional IAT in several respects. Until we use this procedure

TABLE 1 Mean IAT Effect Size (D) and Standard Deviation (SD) for Each IAT

Test type	Children		Adults	
	Effect (D)	SD	Effect (D)	SD
Self-esteem	.11***	.33	.10*	.36
Hispanic over African American preference	.19***	.38	.18**	.33
Hispanic over White preference	.00	.47	.06	.38
Hispanic over African American identification	.12***	.26	.17*	.17
Hispanic over White identification	.06	.41	.14*	.14

Note: * $p < .05$; ** $p < .01$; *** $p < .0001$.

with majority children and adults, we will not be able to definitively settle this issue; however, see note 2 for some reasons to think differences in measures cannot account for this discrepancy. We tentatively conclude that implicit self-esteem, while still positive, is low in this population.

Explicit self-esteem scores could range between 1 (low self-esteem) and 5 (high self-esteem); the mean self-esteem for children was towards the high end of this range, $M=4.3$, $SD=0.59$, while that of adults was somewhat lower, $M=3.9$, $SD=0.69$. This group difference was reliable, $F(1, 299)=22.69$, $p < .0001$. Regression analysis to examine the effect of age within children also revealed a pronounced trend towards lower self-esteem in older children, $F(1, 231)=19.01$, $p < .0001$. Broadly, this result replicates other developmental work reporting a decline in self-reported self-esteem over these ages that is generally assumed to be driven by more realistic self-assessments and increasing social pressures associated with body image, popularity, and related concerns that rise to prominence as adolescence is approached (e.g., Harter, 2001).

Group attitude. Exclusion criteria led to the elimination of 1 child and 6 adult participants from analyses involving the attitude IAT. In children, we found a positive Hispanic + good association when the comparison out-group was African American ($D=.19$) but not when the out-group was White ($D=.00$). We turned to regression analyses to examine effects of age and comparison out-group (White or African American) within the same model. This analysis showed that the IAT effect was significantly stronger when the out-group was African American rather than when the out-group was White, $F(1, 230)=11.68$, $p < .001$. No effect of age, $F(1, 230)=0.01$, $p > .81$, and no interaction between age and out-group, $F(1, 230)=1.55$, $p > .21$, was observed. Simple effects tests revealed that the Hispanic over African American preference was significantly different from 0, $t(116)=5.55$, $p < .0001$, but, of course, the Hispanic over White preference was not. That is, our participants failed to manifest a positive Hispanic + good association when comparing themselves to the White American out-group. This failure to find in-group preference is a first in research on implicit social cognition in young children, and it implicates the effect of early internalization of cultural knowledge about the status of social groups on children's own positive association with their group.

In the adult sample the pattern was similar. Adults showed a positive Hispanic + good association when the out-group was African American ($D=.18$) but not when the out-group was White ($D=.06$). The simple effect was greater than 0 in the case of the African American out-group, $t(32)=3.20$, $p < .01$, but not when the out-group was White Americans, $t(31)=0.90$, $p > .37$, although the difference between the two was not significant, $t(63)=1.38$, $p > .17$. As we noted, adult and adolescent African American populations also show no mean-level in-group preference when comparing themselves to Whites, the majority group (Baron et al., 2004; Nosek et al., 2002). Our replication of this basic finding is particularly interesting given that nearly all our participants lived in an overwhelmingly Hispanic local environment, suggesting the influence of the culture-at-large above and beyond the local milieu.

Given the lack of age effects in the child data, we collapsed across age and compared children directly to adults. For both tests, there were no significant differences between children and adults' implicit attitudes, both $ts < .74$, $ps > .46$.

Explicit group attitude results are summarized in Figure 2. Similar in pattern to the implicit data, children showed robust preference for the in-group as compared

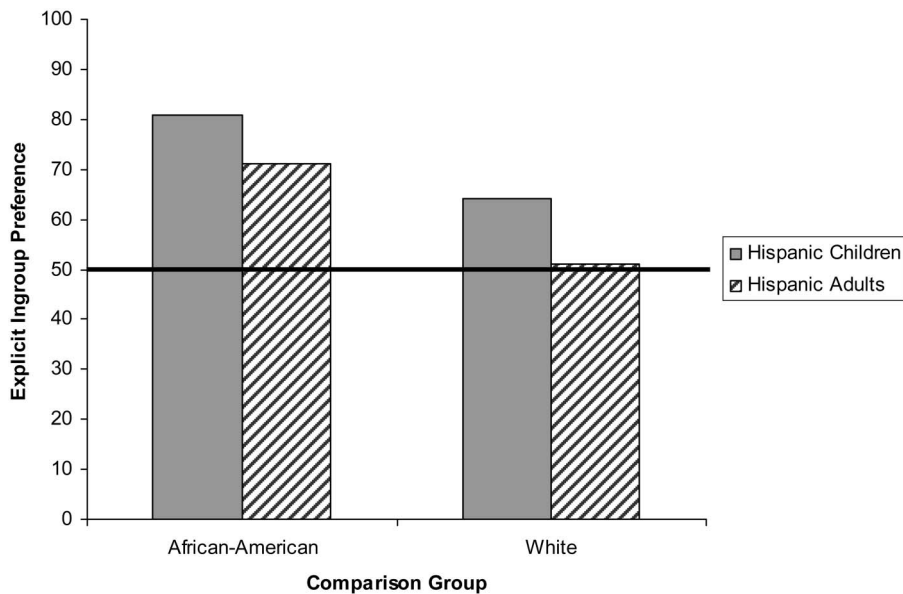


FIGURE 2 Self-reported (explicit) preference for Hispanic over African American and White (chance responding = 50%).

to both out-groups, but especially when the out-group was African American. In the case of the African American out-group, children preferred their Hispanic in-group 81% of the time, a figure which differed strongly from chance performance, $t(233) = 20.09$, $p < .0001$. In the case of the White out-group, children preferred their in-group 65% of the time, which also differed from chance, $t(233) = 8.19$, $p < .0001$. To determine whether there were any effects of age, overall preference was submitted to a regression analysis with two predictors, out-group (African American or White) and age. This analysis revealed a main effect of out-group, with preference for Hispanic stronger when the out-group was African American than when it was White, $F(1, 465) = 50.07$, $p < .0001$. However, neither the effect of age nor the Age \times Out-group interaction approached significance (both $ps > .74$); subsequent analyses were collapsed across age for the child participants. Thus self-reported preference for Hispanic over White contrasts sharply with their implicit attitude, which showed no in-group preference for Hispanic over White.

Adults showed less consistency in their self-reported in-group bias. When comparing themselves to African Americans, they preferred their in-group 71% of the time, a figure which still differed from chance, $t(68) = 6.42$, $p < .0001$. However, when the comparison group was White, adult participants did not show in-group preference, preferring the Hispanic in-group only 51% of the time, a figure which did not differ from chance, $t(68) = 0.26$, $p > .79$; in-group preference was stronger when the out-group was African American, $F(1, 134) = 18.96$, $p < .0001$. As these data suggest, self-reported in-group preference was substantially weaker in adults than in children, $F(1, 600) = 23.79$, $p < .0001$, but this difference did not differ as a function of the out-group, $F(1, 600) = 0.35$, $p > .55$. In other words, both Hispanic adults and children explicitly and implicitly revealed less in-group preference when comparing

their group to the advantaged White majority, rather than the disadvantaged African American minority.

This overall pattern of results is quite different from what we have repeatedly found in majority children, both in the USA and Japan, where young children show equal and robust in-group preference whether comparing themselves to a high- or low-status out-group (Dunham et al., 2006). Instead, our Hispanic participants *do not* show in-group preference when comparing themselves to the White majority. We interpret this as evidence for the more rapid internalization of social group information in minority children, something that has previously been suggested by self-report data (e.g., Aboud, 1988).

Consistent with earlier findings on the development of implicit intergroup attitudes, these results reveal an early dissociation between implicit and explicit group attitudes. At the explicit level, children showed strong preference for their in-group over either out-group, but at the implicit level, in-group preference appeared only when comparing to African Americans. This is an interesting contrast with the majority populations we have studied, where implicit attitudes reveal substantially *more* in-group favoritism than do self-report measures; in this case, implicit attitudes show substantially *less* favoritism than do self-report measures. However, in both these cases it was the *explicit* form of attitude that showed the more pronounced developmental shift, while implicit attitude remained stable across the age groups tested here.

Group identity. Exclusion criteria led to the elimination of 15 child and 12 adult participants from analyses involving the group identity IAT. Children showed a tendency to associate self + Hispanic compared to self + African American ($D = .12$) or self + White ($D = .06$). Simple effects testing revealed that children implicitly identified with Hispanic when the comparison group was African American, $t(111) = 4.71$, $p < .0001$, but not when the comparison group was White, $t(106) = 1.62$, $p < .11$. However, a regression analysis showed no significant effects of out-group, $F(1, 215) = 1.88$, $p > .17$, age, $F(1, 215) = 2.44$, $p > .11$, or their interaction, $F(1, 215) = 1.31$, $p > .25$.

Adults showed a clear association of self with Hispanic compared to African American ($D = .18$) and White ($D = .14$). Both effects were statistically significant—African American contrast $t(28) = 2.55$, $p < .02$; White contrast $t(29) = 2.05$, $p < .05$ —and the two did not differ from each other, $t(57) = 0.39$, $p > .69$. Adults and children did not differ from each other on either test, both $ts < 0.96$, $ps > .36$, indicating no age-related differences in implicit group identity.

One child and one adult failed to complete the self-report identity measure. Explicitly, children robustly identified with their in-group over the African American out-group, $M = 87\%$, $t(232) = 21.36$, $p < .0001$, as well as the White out-group, $M = 62\%$, $t(232) = 4.41$, $p < .0001$. We used regression analysis to directly compare these effects while also examining the effect of age. This analysis revealed main effects of out-group and age, qualified by their interaction, $F(1, 462) = 6.09$, $p < .03$. Predicted values of in-group identification, as a function of out-group and age, are presented in Figure 3. The age-related increase in the strength of Hispanic identification is clearly visible when the out-group was White, but not when the out-group was African American. By comparison, adults showed in-group identification both with respect to the African American out-group, $M = 74\%$, $t(67) = 5.82$, $p < .0001$, and the White out-group, $M = 62\%$, $t(67) = 2.38$, $p < .03$, with the former value marginally greater in strength than the latter, paired $t(67) = 1.82$, $p < .08$. That is,

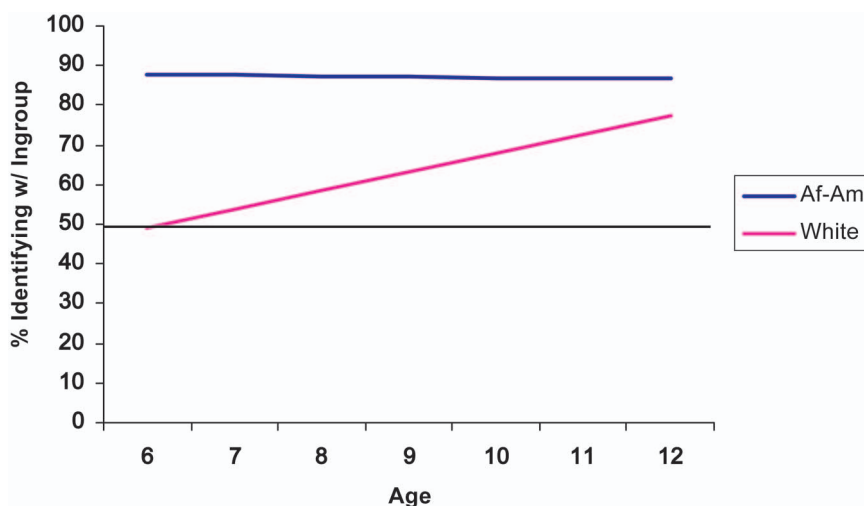


FIGURE 3 Self-reported (explicit) identification with the Hispanic in-group as a function of children's age and comparison out-group, predicted from OLS regression model (chance responding = 50%).

young children are not clearly differentiating themselves from the White majority, although identification with the in-group does occur by middle childhood and remains present in adults.

In summary, on a measure of implicit identity, children associated themselves with their in-group (Hispanic) when the comparison was African Americans but *not* when the comparison was White Americans. By adulthood, however, implicit identification was present regardless of the comparison out-group. At the explicit level, the pattern was quite similar, with young children identifying with Hispanic over African American but not Hispanic over White. The identification with Hispanic over White showed a gradual, age-related increase in strength, while the identification with Hispanic over African American remained stable and high. The lack of identification with the in-group at both the implicit and explicit level, as well as the lack of in-group preference when the out-group is the White majority, is reminiscent of the classic finding from Clark and Clark (1933), which showed a tendency towards out-group identification in young African American children. Given the strong tendency to identify with the in-group when comparing oneself to the African American minority, this finding suggests a similar interpretation: Minority children may not strongly identify with their own in-group because they are already aware of the status differences between their in-group and the dominant majority; indeed, in a separate study, Hispanic adolescents implicitly identified with the White majority over the African American minority when these two out-groups were directly pitted against each other (Baron et al., 2004).

Bivariate relationships between measures. At the implicit level, only one correlation reached significance. This was the correlation between in-group attitude and identity when the contrast group was African Americans, $r(140) = .22$, $p < .01$. At the explicit level, several correlations emerged, which are shown in Table 2.

TABLE 2 Correlations Between Explicit Measures (Pearson's *r*)

	2	3	4	5
1. Self-Esteem	.16**	.09	.07	-.04
2. Hispanic over African American preference	—	.31***	.32***	.10
3. Hispanic over White preference		—	.14*	.35***
4. Hispanic over African American identification			—	-.05
5. Hispanic over White identification				—

Note: **p* < .05; ***p* < .01; ****p* < .001.

As can be seen, moderate correlations emerged between measures of attitude and identification within out-group conditions, and between the two measures of attitude. There was also a modestly positive correlation between self-esteem and attitude when the contrast group was African Americans. While we do not want to over-interpret this modest correlation, positive differentiation from a disadvantaged minority could be a means to bolster self-esteem, a possibility consistent with social identity theory (Tajfel & Turner, 1979, 1986). We will return to this possibility below.

Balanced Identity Analyses

To examine the interrelationships between these measures, we investigated the higher-order relationships using a balanced identity design suggested by Greenwald et al. (2002). The assumption underlying the balanced identity approach is that any one of the three core constructs of self-esteem, identification, and attitude can be predicted from the relationship between the values of the other two. That is, if one shows a strong association of self + good (high positive self-esteem) and between self + in-group (strong group identity), then in-group + good (positive attitude) is expected to result, because this is the only outcome that produces affective-cognitive balance in implicit social cognition. Statistically, this logic suggests the use of the two-way interaction term between any two constructs as the predictor of the third construct.

The balanced identity procedure involves first predicting each outcome with this interaction term (Step 1), and then adding the main effect terms to test whether additional variance is accounted for above and beyond the interaction term (Step 2). More precisely, the following results are predicted: The regression coefficient of the interaction term (hereafter *b*₁) should account for substantial variance in the outcome and should be numerically positive at Step 1; *b*₁ should remain positive in Step 2; the increment in variance explained from Step 1 to Step 2 should not be statistically significant; and neither regression coefficient corresponding to the simple effects of the two predictors (hereafter *b*₂ and *b*₃) should be statistically different from zero in Step 2 (see Greenwald et al., 2002, for further details of the statistical procedure). We followed this procedure, conducting separate analyses for each out-group and concentrating on the IAT because past research has not shown balance for explicit cognitions (Greenwald et al., 2002; Rudman & Goodwin, 2004). Because these analyses require three IATs per participant, participants who

were excluded from any individual IAT, above, were also excluded from these analyses.

African American contrast set. A total of 110 children and 28 adults contributed to these analyses. For the analyses involving children, preliminary tests showed that age did not emerge as a statistically significant simple effect or interaction; the strength of balance did not appear to vary across the age ranges tested here. Following the logic outlined in the analysis section above, we first entered each construct (self-esteem, group attitude, and group identity) into a regression equation with a single predictor composed of the two-way interaction of the other two constructs (Step 1). For children, the three models provided validation of the balance predictions; one model was marginally significant, $F(1, 109) = 3.21, p < .08$, and the other two were statistically significant (both $F_s > 6.70, p_s < .02$). In each model, the standardized values of b_1 revealed moderate effect sizes (mean standardized $b_1 = .24$) and all were numerically positive. In Step 2, we entered each main effect term corresponding to our two predictors into each of the regression models from Step 1. These regressions again largely bore out the predictions of the balanced identity model; b_1 remained positive across all models at near-identical levels to Step 1 (mean $b_1 = .22$), and none of the increases in variance explained or the main effects b_2 or b_3 reached the $p < .05$ level of significance. However, in two of the three models the increase in variance explained was of marginal significance ($p = .06$ and $p = .08$, respectively), and in one model one main effect term was also of marginal significance, $F(1, 107) = 3.22, p < .08$. While suggesting a confirmation of the balance model in children, these results also suggest that balance is somewhat less robust than has been found in prior research.

For adults, the picture was remarkably different. None of the three models approached significance (all $F_s < 0.08, p_s > .77$), only two of the three estimates of b_1 were numerically positive, and the values of b_1 were quite small (mean standardized $b_1 = .01$). Thus, Step 1 failed to confirm balance predictions in adults. Given this, Step 2 becomes superfluous and results will not be presented here.

White contrast set. A total of 105 children and 29 adults contributed to these analyses. In this case, for children, the predictions of the balance model were not born out at Step 1; none of the three models explained a statistically significant proportion of variance in the outcome (all $F_s < 0.75, p_s > .39$). While the values of b_1 were numerically positive, they were quite small (mean standardized $b_1 = .053$); again, no effect of age emerged in these analyses. For adults, predictions were also not born out at Step 1 (all $F_s < 0.11, p_s > .75$, mean standardized $b_1 < .01$). Given the manifest failure at Step 1, we will not report results from Step 2 here. In short, no evidence of balance emerged in either adults or children when the comparison group was White.

These data suggest that degree of balance differs as a function of the contrast set (whether the comparison group was African American or White). In the former case (African American contrast), children did show balance between the three constructs. For the White American contrast, there was no evidence of balance in children or adults.

The differences between the two contrast sets is interesting; our considerations at the outset suggested that balance might be problematic for minorities because of internalized negativity associated with the in-group. Consistent with this interpretation, we found no evidence of balance when comparisons were with

the White majority. However, children did show some evidence of balance when comparing themselves to African Americans, suggesting that positive differentiation from another disadvantaged minority might play an important role in early affective-cognitive development.

Conclusion

A developmental test of implicit social cognition in a disadvantaged minority led to several broad conclusions and generated new questions for further study. First, the in-group preference seen so robustly in adult members of a wide range of groups is absent in adult Hispanic Americans when they compare their group to White Americans. This finding replicates past results reported with African American adults, suggesting that the result is not particular to African Americans but may be the norm for disadvantaged racial or ethnic groups. What is more, this pattern has its genesis in early childhood; 5- and 6-year-old Hispanic children also showed no overall preference for their in-group as compared to the White majority. We regard these data as showing that the internalization of societal knowledge and attitudes about the relative status of social groups happens quite early in minority children, working to moderate in-group bias. This is an important difference from our findings with majority populations, in which young children as well as adults show strong preference for their racial in-group (Baron & Banaji, 2006; Dunham et al., 2006). That said, when comparing themselves to another disadvantaged minority, both children and adults showed strong preference for their in-group. Thus, while the minority in-group is not viewed more positively than the majority out-group, it *is* considerably more positive than at least one other minority out-group. Thus, the social status of the comparison group appears to play a central role.

Similarly, young Hispanic children implicitly identified equally with their in-group and the White majority, but identified more strongly with their in-group than the other minority group, again evidencing early internalization of social status information. Interestingly, older children and adults *do* begin to identify more with their own group even when compared to the White majority. That is, despite not developing more positive *attitudes* towards their own group, patterns of *identification* gradually shift, a trend that could be the result of the more integrated ethnic identity that develops in adolescence (e.g., see Phinney, 1989). An anonymous reviewer also suggests the intriguing possibility that, for our younger participants, ethnic categorization might rely primarily on skin color, in which case White and Hispanic might not always be distinct, given both a potential assimilative motive to identify with the dominant group, and the fact that some of our participants were relatively light-skinned. In older children, the social and political aspects of ethnicity may become more prominent, increasing the motivation to identify with the ethnic in-group over and above the White majority. If so, Hispanic subgroups of African heritage might display a quite different pattern of early identifications.

Broadly speaking, our pattern of results is interpretable via social identity theory (SIT; Tajfel & Turner, 1979, 1986). SIT argues that we seek to emphasize positive aspects of the social groups to which we belong so as to then benefit from those memberships in terms of increased self-esteem. In the case of disadvantaged minorities, prevailing social negativity (or prevailing positivity towards the majority) may disrupt the formation of positive attitudes towards the in-group. This could

make the process described by SIT of much less utility, because in the absence of positive in-group attitude, self-esteem cannot be bolstered via identification with that group. In other words, SIT provides a complimentary model to balanced identity, explaining why we might often see integration of self-esteem and group attitudes and affiliations; it may also explain why we don't see cognitive balance in members of the minority.

While it may be tempting to suggest that the lack of balance should be interpreted as a negative, this conclusion would not be warranted. First, the conditions under which balance does and does not form are not yet fully understood. For example, men, who have higher status than women, do not show balance with respect to gender attitudes (whereas women do; Rudman & Goodwin, 2004). Second, given that our participants maintained positive self-esteem, it is equally possible that this "lack" of balance is an optimal strategy for children growing up in a setting in which their group identity is disparaged. In other words, the self-esteem of members of the minority may be protected, in part, precisely because it is not contingent on the positive distinctiveness of an ethnic in-group identity. The notion that children actively seek adaptive pathways to optimal development is an exciting direction in developmental psychology (e.g., Fischer, Ayoub, & Singh, 1997), and could be further explored in this context.

Our results suggest that understanding the complex interplay of implicit self constructs will require considerable work with non-majority populations, who may represent an important test case for the generality of theoretical models (e.g., the factors influencing cognitive balance may be more complex in minority, compared with majority, populations, and the principles underlying social identity theory may be less applicable). We would also argue that further developmental work is required to tease apart the ramifications of declining balance in childhood and adulthood for minority populations, and to investigate the onset and prevalence of assimilation of cultural information. A better understanding of these processes can contribute to both our theoretical understanding of the role of implicit social constructs across the lifespan and our practical knowledge of when and how change occurs in children's cognitive representations of themselves and their world.

Notes

1. It is possible that the lack of parallel structure across our implicit and explicit measures could limit our ability to detect correlations between them (Hofmann, Gawronski, & Gschwendner, 2005). Developing a more parallel measure of explicit self-esteem may be an important task for future research.
2. We have conducted extensive pilot testing, including several independent data collections comparing the child IAT to the standard IAT, to confirm that this scoring method is appropriate and the child IAT is closely related to the adult IAT. The method described here produces effect size estimates in adults that are of equivalent magnitude and highly correlated with effect sizes from the standard adult IAT.
3. Greenwald and Farnham (2000) and Rudman et al. (2001) were conducted prior to the development of the revised IAT scoring algorithm, and thus results reported in those papers were based on Cohen's *d* rather than the revised IAT effect size measure *D*. To allow rough comparisons with our analyses, which employed the revised algorithm, we converted Cohen's *d* to the IAT *D* measure using the formula provided in Nosek and Sriram (in press).

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Appendix

Experimental stimuli

Child IAT Category Stimuli

Category	Stimuli
Positive traits	good (bueno/a), happy (feliz), nice (simpático/a), fun (divertido/a)
Negative traits	bad (malo/a), mad (enojado/a), mean (antipático/a), yucky (fuchi)
Self words	me (mi), I (yo), myself (mimismo/a), my (mía)
Other words	them (sus), they (ellos/as), themselves (ellos/as mismos/as), their (suyos/as)
Hispanic	Color facial photographs
African American	Color facial photographs
White	Color facial photographs

Explicit Self-esteem Questions

1. How much do you like yourself? (¿Cuánto te quieres a tí mismo?)
2. How much do other people like you? (¿Qué tan bien le caes a otras personas?)
3. How good are you at games? (¿Qué tan bueno eres para los juegos?)
4. How good are you at school? (¿Qué tan bueno eres para la escuela?)