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The Effect of Action Valence and Race on 3- to 8-Year-Old Children’s Social Cognitive Judgments

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The present study investigated children’s judgments of actions as a function of the valence of the action and the race of the actor. Three- to 8-year-old children were read an illustrated storybook in which 1 character did not share (a negatively valenced action) and the other character was helpful (a positively valenced action). The race of the characters was manipulated such that in the story, there was 1 Black character and 1 White character. Children were asked to make judgments about how mean/nice the characters were and what consequence (reward or punishment) they should receive for their actions. Despite the fact that children of this age show explicit and implicit pro-White biases (e.g., Baron & Banaji, 2006), children’s judgments were based solely on the valence of action and not on character race. The findings are discussed in light of moral development and the development of bias as it pertains to race.

When making judgments of others and their actions, we rely on a number of explicit and implicit factors. Such factors may include the actual behavior, the motivation for behaving in that particular way, and expectations for behavior based on who the person is. Expectations for particular groups of individuals behaving in particular ways, or bias, is of particular interest because even though one may explicitly claim egalitarian attitudes toward others, implicit bias can, and often does, influence our judgments of others (Beatty, 2013). Implicit bias has been well documented in adults, and its development has been charted in children (Baron & Banaji, 2006). Less well understood is when and how children may use bias in their judgments of others. Thus, the present study explored children’s judgments of actions as a function of the valence of the action and the race of the actor.

Adults show consistent patterns in the use of racial stereotypes in judging actions of others. For example, college-aged participants judged shoving behavior as more violent when the actor was Black compared with when the actor was White (Duncan, 1976); perception of crime in a neighborhood increased as the percentage of young Black men living in the neighborhood went up (Quillian & Pager, 2001); and in mock-jury scenarios, Black defendants were punished more severely than White defendants regardless of the offense (Jones & Kaplan, 2003). Moreover, there can be real-world implications for how members of different races are perceived and
treated. Graham and Lowery (2004) asked police officers and juvenile probation officers to read about a hypothetical adolescent who committed a crime after being primed for either a Black or neutral race. The participants gave more negative trait descriptions and harsher punishments in the Black prime condition compared with the neutral condition. The pervasiveness and strength of implicit bias may be due to its grounding in our neurology, resulting from the widespread connections between the fear centers in the amygdala and decision-making areas of the cortex (Kubota, Banaji, & Phelps, 2012).

Development of explicit and implicit bias has divergent time courses. Using a child version of the Implicit Attitudes Test (IAT; Greenwald, McGee, & Schwartz, 1998), Baron and Banaji (2006) showed that pro-White attitudes were the same for White 6- and 10-year-olds and adults. In contrast, explicit attitudes toward Whites were strongest in 6-year-olds, less strong in 10-year-olds, and least strong in adults. Adherence to implicit pro-White attitudes was also found for Black participants (Newheiser & Olson, 2012). Seven- to 11-year-old Black students showed an out-group (pro-White bias) on an IAT that combined race (Black and White) with positive and negative words and wealth (rich or poor). The implicit pro-White bias was strongest among Black participants who expressed a preference for rich people. Newheiser and Olson (2012) suggested that awareness of a group’s social status may be an influencing factor for implicit pro-White bias. These findings are consistent with Raabe and Beelmann’s (2011) meta-analysis showing a) a dissociation between implicit and explicit measures of prejudice in childhood, b) an increase in explicit prejudice from 2 to 7 years old, and c) prejudice most likely being expressed toward low-status groups (see also Dunham, Baron, & Banaji, 2008).

Asking about preferences or testing for implicit bias does not inform us about how these biases may affect children’s perception or judgment of others. Do children, like adults, use pre-conceived notions about people when judging their actions? It is possible that they do by 11 to 12 years of age (Sagar & Schofield, 1980). Sagar and Schofield (1980) presented Black and White 11- and 12-year-olds with ambiguous social behaviors, such as poking another, bumping into another, taking a pencil, and asking for cake, performed by a Black or a White actor. Children rated the behaviors as meaner and more threatening when performed by a Black actor compared with when performed by a White actor, regardless of participant race. This finding is consistent with the patterns found with adult participants, discussed earlier. Of interest is whether the same pattern would be found for younger children.

The present study examined children’s judgments of actions as a function of the valence of the action and the race of the actor. Children 3 to 5 years old and 6 to 8 years old were read an illustrated storybook about a mean boy who would not share (a negatively valenced action) and a nice girl who helped him (a positively valenced action). In one story, the boy was Black and the girl was White, and in another story, the boy was White and the girl was Black. At no point in the story was the race of the characters explicitly stated. Following the story, children were asked how mean or nice each character was and what reward or punishment they should receive for their actions. If children used implicit bias in judging actions, then we expected the Black boy to be judged as meaner than the White boy and the White girl to be judged as nicer than the Black girl. Moreover, the Black characters should receive harsher punishments or less positive rewards than the White characters. If children’s judgments were based only on action and not race, then the boy would be judged as meaner than the girl and he would receive harsher punishment than the girl, regardless of race.
METHOD

Participants

Fifty 3- to 5-year-old children (“younger,” $M_{age} = 3;10$, 27 girls, 1 Hispanic) and thirty-three 6- to 8-year-old children (“older,” $M_{age} = 7;4$, 13 girls, 3 Multiracial and 1 Hispanic) were tested. Participants were from early education and afterschool programs in a predominantly Caucasian community in Central Maine representing middle-class socioeconomic-status households (average obtained for this region in other studies, $M = 50.73$, $SD = 15.66$, on the Four-Factor Index of Social Status [Hollingshead, 1975]; see Bornstein, Hahn, Suwalsky, & Haynes, 2003).

Materials

A revised version of the illustrated story entitled The Boy Who Wouldn’t Share by Mike Reiss and David Catrow (2008) was used. In the original story, a young boy refuses to share his toys with his sister. When the boy is trapped under his toys, the sister helps free him and shares her fudge. The text of the story was altered slightly by the researchers so that the two children are friends instead of siblings and to create more clearly negative and positive actions. Instead of a peaceful resolution, the edited version ends with one boy behaving clearly negatively and the girl behaving clearly positively. Two versions of the book were created using Photoshop (Figure 1a and Figure 1b). In one version, the boy was Black and the girl was White. In the second version, the boy was White and the girl was Black. Of the 19 pages of the book (including the cover page), one of the characters was depicted on 13 pages and both characters were depicted on 2 pages.

Children rated the overall “niceness” of both actors using a nice/mean scale created by Dews et al. (1996). This scale was composed of smiling and frowning faces of varying intensities.

FIGURE 1 (a) Sample storybook page for Black main character condition. (b) Sample storybook page for White main character condition.
The faces were organized from right to left with nice on the farthest right, neutral in the middle, and mean at the farthest left. Responses were coded from $+2$ to $-2$, with the most extreme happy face being assigned $+2$, the less extreme happy face assigned $+1$, the neutral face assigned 0, the less extreme mean face assigned $-1$, and the most extreme mean face assigned $-2$. Children assigned consequences for each actor’s behavior based on a consequence scale created by the researchers. Listed from highest reward to most severe punishment, the items on the scale were a new toy, hug, nothing, timeout, and no dessert. Visual images ordered from left to right for highest reward to most severe punishment accompanied the experimenter’s explanation of each level of consequence. The responses were coded from $+2$ to $-2$ as on the nice/mean scale, with the most positive reward receiving $+2$, the most negative consequence receiving $-2$, and nothing receiving 0.

To ensure that children of this age were able to use the two scales, an additional twenty-four 3- to 5-year-old children ($M_{age} = 4;2$, 14 girls, all Caucasian) and twenty 6- to 8-year-old children ($M_{age} = 7;7$, 7 girls, all Caucasian) were tested. Children were tested individually in a laboratory. After being read one version of the story, children were shown the nice/mean scale and were asked: a) Which face shows a nice person? And b) which face shows a mean person? Next, they were shown the consequence scale and were asked: a) If someone is good, what should they get? And b) if someone is bad, what should they get?

For the nice/mean scale, the responses were analyzed for each age separately using Wilcoxon signed rank tests. Children in both age groups were significantly more likely to select the smile face for a nice person ($M = 1.04, SD = 1.43$ for 3- to 5-year-olds; $M = 1.95, SD = 0.22$ for 6- to 8-year-olds) and the mean face for a mean person ($M = -1.38, SD = 1.35$ for 3- to 5-year-olds; $M = -1.95, SD = 0.22$ for 6- to 8-year-olds), $p < .001$. For the consequence scale, similar analyses revealed that children were significantly more likely to select the positive reward for a good person ($M = 1.33, SD = 1.13$ for 3- to 5-year-olds; $M = 1.70, SD = 0.47$ for 6- to 8-year-olds) and the negative punishment for a bad person ($M = -0.83, SD = 0.92$ for 3- to 5-year-olds; $M = -1.40, SD = 0.60$ for 6- to 8-year-olds), $p < .001$. Thus, children of both ages were able to appropriately use the nice/mean and consequence scales.

**Procedure**

Children with parental consent were tested individually in a quiet area of their early childhood or afterschool program. Children were read and shown the illustrations of one of the two versions of the story. The order of the versions was alternated across participants. Immediately after completion of the story, children were asked to rate how nice or mean each character was and the consequence (reward or punishment) each character should receive as a result of his/her actions.

**RESULTS**

Each version of the story included a Black and White character who engaged in positive or negative actions. Preliminary analyses were conducted with participant sex as a factor. Because no main effects or interactions were found, this factor was removed and all analyses reported were collapsed across male and female participants.
To determine the effects of age, actor race, and event valence on judgments of actions, a 2 (age: younger, older) × 2 (main actor race: Black, White) × 2 (valence: negative, positive) mixed-design analysis of variance (ANOVA) was conducted with nice/mean judgment as the dependent variable (Table 1). The analyses revealed significant main effects for age, \( F(1, 79) = 20.62, p < .001, \) partial \( \eta^2 = .21, \) a significant main effect for valence, \( F(1, 79) = 188.74, p < .001, \) partial \( \eta^2 = .71, \) and a significant Age × Valence interaction, \( F(1, 79) = 20.10, p < .001, \) partial \( \eta^2 = .20. \) No other significant main effects or interactions were found.

Tests for simple effects explored the interaction (Figure 2). Two one-way ANOVAs were conducted to test for the effect of age at each level of valence. When judging negative actions, there was no difference in younger and older children’s ratings of meanness, \( F(1, 81) = 0.26, p = .614. \) When judging positive actions, younger children were less positive compared with older children, \( F(1, 81) = 42.10, p < .001, \) partial \( \eta^2 = .34. \) These findings suggest that children’s evaluations of whether an actor was nice or mean were based on the valence of the actions: The boy who engaged in mean actions was judged as mean and the girl who engaged in nice actions was judged as nice.

<table>
<thead>
<tr>
<th>Main Character Race</th>
<th>Action Valence</th>
<th>Positive</th>
<th></th>
<th>Negative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Black</td>
<td>White</td>
<td>Black</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>3- to 5-year-olds</td>
<td>0.22 (1.50)</td>
<td>0.52 (1.24)</td>
<td>-1.22 (1.58)</td>
<td>-1.52 (0.85)</td>
<td></td>
</tr>
<tr>
<td>6- to 8-year-olds</td>
<td>1.89 (0.32)</td>
<td>2.00 (0.00)</td>
<td>-1.44 (0.78)</td>
<td>-1.53 (0.64)</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 1**
Mean Mean/Nice (Standard Deviation) Ratings as a Function of Age, Main Character Race, and Action Valence

![Figure 2](image-url)  
**FIGURE 2** Mean rating of mean/nice as a function of age and action valence. Error bars reflect the standard error of the mean.
To determine the effects of age, actor race, and event valence on children’s assignment of consequences for actions, a 2 (age: younger, older) × 2 (main actor race: Black, White) × 2 (valence: negative, positive) mixed-design ANOVA was conducted with consequence as the dependent variable (Table 2). The analyses revealed significant main effects of valence, $F(1, 77) = 12.80, p < .001$, partial $\eta^2 = .14$, and a significant Age × Valence interaction, $F(1, 77) = 35.64, p < .001$, partial $\eta^2 = .32$. No other significant main effects or interactions were found.

Tests for simple effects explored the interaction (Figure 3). Two one-way ANOVAs were conducted to test for the effect of age at each level of valence. For the negatively valenced action, older children gave more severe punishments than did younger children, $F(1, 81) = 13.85, p < .001$, partial $\eta^2 = .15$. For the positively valenced action, older children gave stronger rewards than did younger children, $F(1, 79) = 4.47, p < .038$, partial $\eta^2 = .05$. These findings suggest that children’s perceived consequences were based on the acts performed by that actor.

Surprisingly, no main effects or interactions were found for race. To investigate the possibility that children were not attending to race of the characters and/or to other details in the

<table>
<thead>
<tr>
<th>Main Character Race</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>0.12 (1.61)</td>
<td>−0.50 (1.53)</td>
</tr>
<tr>
<td>White</td>
<td>0.55 (1.65)</td>
<td>0.00 (1.38)</td>
</tr>
<tr>
<td>3- to 5-year-olds</td>
<td>1.00 (0.59)</td>
<td>−1.50 (1.04)</td>
</tr>
<tr>
<td>6- to 8-year-olds</td>
<td>0.93 (1.16)</td>
<td>−1.20 (1.21)</td>
</tr>
</tbody>
</table>

![FIGURE 3](image-url) Mean rating of consequence as a function of age and action valence. Error bars reflect the standard error of the mean.
story, the second sample of participants who verified accurate use of the scales (see the Materials section) were also asked to recall the name of each character, to indicate the characters’ race on a scale showing five color patches ranging from dark black to light peach, and to recall the toys mentioned in the story (maximum ¼ 13). As can be seen in Table 3, the percentage of children who recalled the characters’ names and their race correctly was relatively low; the percentage of children remembering the name and race of the two characters was for the most part below 50%.

For the number of toys recalled, an accuracy score was calculated by subtracting the number of incorrect toys named from the number of correct toys named (Table 4). Children who did not answer or who could not identify any toys were given a score of 0. Children’s recall was evaluated in a 2 (age: older, younger) × 2 (main actor race: Black, White) between-subjects ANOVA with accuracy score for recall as the dependent variable. The analyses revealed a significant main effect for age, F(1,40) = 12.57, p = .001, partial η² = .24. Overall, the number of toys recalled was low (M = 2.43, SD = 1.74), and older children recalled significantly more toys than did younger children (M = 1.67, SD = 1.66, and M = 3.35, SD = 1.39, respectively). The fact that older children recalled more toys than younger children did is consistent with numerous reports of differences in memory between these two ages (e.g., Arterberry, Milburn, Loza, & Willert, 2001; Bauer, 2006). Although recall was low, it did not differ between the two versions of the story.

### DISCUSSION

To explore the factors that affect children’s judgments of others’ actions, 3- to 8-year-old children were read a story about a boy who would not share and a girl who was helpful. The
race of the two main characters was manipulated to understand the role that race may play in children’s judgments of “niceness” and assignment of consequences for positive and negative actions. The findings suggest that children of this age based their judgments on the valence of the action. The mean boy was judged as meaner than the nice girl, and he was assigned a harsher consequence for his actions.

Three- to 8-year-old children judged the characters based on their actions. These findings are consistent with other research on children’s moral development. Children by 3 years of age understand the difference between moral transgressions (such as not sharing) and conventional transgressions (such as not saying “please”; Killen & Smetana, 2006). Moreover, children of this age understand that moral transgressions are more wrong, are independent of rules and authority, and are more serious than conventional transgressions (Smetana & Braeges, 1990). Thus, it is not surprising that the children in this study rated the boy who would not share as meaner and gave him a harsher consequence than the girl who was helpful.

Race did not have an effect on children’s judgments. Research with older children and adults documents the use of implicit bias when judging the actions of others: Eleven- and 12-year-olds judged ambiguous acts of Black protagonists as meaner and more threatening compared with White protagonists (Sagar & Schofield, 1980), and adults gave harsher punishments to Black offenders than to White offenders (Jones & Kaplan, 2003).

The lack of evidence for bias based on race may be due to several factors. First, it is possible that race is not salient for this age group. Although the race of the characters was not explicitly stated, one or both of the characters were depicted on 15 of 19 pages of the storybook. In addition, the color differences were striking. Nevertheless, few children correctly recalled the race of the characters. This performance is in sharp contrast to a study with adults (Eddy, 2011). In a vignette of 154 words, the race of the protagonist was mentioned once, whereas his name was mentioned four times. When asked to recall the name and race of the protagonist, only 60% of participants remembered the protagonist’s name, whereas 98% remembered the race correctly.

Another possibility is that the children did not remember which character was White or Black. Memory for key details of the story, such as names of the characters, race of the characters, and the number of toys, was low across all ages and the two storybook conditions. Despite this low performance of verbatim memory, children must have remembered the gist of the story as their judgments of how nice/mean the characters were and the consequences were appropriate (e.g., Reyna & Kiernan, 1994). It is unlikely that children in the present study were suppressing their reports of race. Such intentional avoidance of talking about race has been shown in older children, specifically around age 10 years, but not in younger children (Apfelbaum, Pauker, Ambady, Norton, & Sommers, 2008). Moreover, it is still possible for bias to be operating even if the information is not part of conscious awareness; adults and 10-year-old children reported no explicit preference between Black and White groups but still showed differences when tested for implicit attitudes (e.g., Baron & Banaji, 2006).

The fact that 3- to 8-year-old children were not making social-cognitive judgments based on race is consistent with other work suggesting that before 10 years of age, children have not fully incorporated societal conventions about race. Children younger than 10 years of age explicitly express a preference for one race over another (Baron & Banaji, 2006; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011), and they do not withhold discussion of race (Apfelbaum et al., 2008). Yet at the same time, race does not appear to guide preferences for novel objects or
activities (Shutts, Banaji, & Spelke, 2010), and from the present study, it appears that race is not a factor when judging others’ actions.

Use of race for making judgments about others most likely begins with perception of different races. Newborn infants do not show a preference for one type of racial group over another (i.e., such as their own race vs. another; Kelly et al., 2005); however, as early as 3 months of age, infants show a preference for same-race faces (Kelly, Liu, et al., 2007). By 9 months of age, infants show superior face recognition among faces of their own race compared with other-race faces (Kelly, Quinn, et al., 2007). Thus, within the 1st year of life, infants’ face perception is perceptually attuned to the types of faces in their environment (Bar-Haim, Ziv, Lamy, & Hodes, 2006). Understanding the implications of race, at least those that are in line with societal conventions, appears to follow a more protracted developmental time course. Even at age 3, age and gender appear to be more salient than race in guiding children’s decisions (Shutts et al., 2010). An avenue for future research would be to identify the processes underlying children’s attention to different races, development of racial preferences, and the use of race in social-cognitive judgments.

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