Predictors of Cross-Racial Sharing Behavior in White Preschool Children

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PREDICTORS OF CROSS-RACIAL SHARING BEHAVIOR IN WHITE PRESCHOOL CHILDREN

MIRANDA ELLIS

Prosociality, or behavior that benefits others, is largely influenced by social evaluations of others and ingroup biases. Implicit racial bias and preference for similar others can be detected early in childhood (Dunham et al., 2008; Renno & Shutts, 2015), necessitating a search for factors that may reduce bias in young children. The purpose of the present study was to examine the relation between parent-reported prosociality, inhibitory control, and exposure to people of color on young children’s cross-racial prosocial sharing behavior. Eighty-four 4- to 5-year-old children were recruited through schools, preschools, and daycare centers in Illinois. One parent per child completed a questionnaire to provide measures of prosociality, inhibitory control, and exposure to people of color. While viewing Black-White pairings of photos gender-matched to the participant, children participated in a sticker-sharing task to measure cross-racial sharing behavior, a preference task to measure racial preference, and an expectation of prosociality task to measure expectations of helping behaviors from Black and White others. I hypothesized that White children would give more stickers to White others than Black others. I also expected children’s inhibitory control and exposure to people of color would predict cross-racial sharing. Finally, I hypothesized that preferences and expectations would predict cross-racial sharing. White children shared significantly more stickers than they kept but did not share more with White others than Black others, indicating that the perceived division occurred between sharing
and keeping instead of Black and White. Preferences for Black others and expectations of help from Black others significantly predicted cross-racial sharing scores. Inhibitory control was correlated with prosociality, but not with sticker sharing behavior. Exposure to people of color was positively correlated with preferences for Black others when controlling for age, and preferences for Black others significantly positively predicted the number of stickers shared with a Black other. These findings provide important details about cross-racial sharing during the preschool years.

KEYWORDS: prosociality; inhibitory control; preschool; sharing; cross-racial sharing
PREDICTORS OF CROSS-RACIAL SHARING BEHAVIOR IN WHITE PRESCHOOL CHILDREN

MIRANDA ELLIS

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

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M.E.
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CHAPTER I: LITERATURE REVIEW

Prosociality describes a variety of behaviors that benefit other people (Penner et al., 2005). Prosocial behavior can be driven by empathy (Cuff et al., 2016), social evaluations of others (Van de Vondervoort, 2018; Vogelsang & Tomasello, 2016), and ingroup biases (Over, 2018). Because a functioning society is dependent on member cohesiveness and contributions, the theoretical argument is made that prosocial behavior is necessary for survival (Van de Vondervoort & Hamlin, 2016).

Ingroup biases can be expressed in children through lower levels of prosociality toward outgroup members or higher levels of prosocial behavior with ingroup members (Chernyak et al., 2020). Our capacity for empathy is often limited, with stronger empathic responses arising for ingroup members as opposed to outgroup members (Mathur et al., 2010; Wang et al., 2015). Even children as young as three months of age have been shown to make moral evaluations of others (Hamlin et al., 2010), and two-year-old children will adjust their giving behavior based on their evaluation of the recipient as prosocial or antisocial (Van de Vondervoort, 2018). This evidence points to children’s tendency to make social evaluations of others, which are influenced by ingroup biases and consequent lower levels of prosociality toward outgroup members.

Adult studies of ingroup biases often focus specifically on race (Mather et al., 2010; Wang et al., 2015). In contrast, studies of ingroup biases with young children have used groupings based on gender, nationality, geographic location, and food preference (Chernyak et al., 2020; McLoughlin et al., 2018). Children as young as four years exhibit implicit ingroup biases that remain steady over the lifetime, even as explicit bias decreases with age (Dunham et al., 2008). Three- to five-year-old White children have expressed preferences for White others over Black others, and in a forced giving scenario gave more coins to White others than Black
others (Renno & Shutts, 2015). Exposure to diverse people during the preschool years has been related to increased cross-racial friendships and decreased racial bias, providing evidence for a path to potentially reduce racial ingroup bias that must be further explored (Gaias et al., 2018). Childhood has been identified as an ideal time to address ingroup bias (Killen et al., 2021); preschool-aged children are rapidly learning about the social world by observing, categorizing, and exploring their own influence, and their attitudes and opinions are still in formation. This is an age where children are highly influenced by parents, teachers, and peers, therefore we must explore potential interventions for decreasing racial bias in the impressionable developmental period that is early childhood.

**Social Evaluations**

Our judgments of others largely impact how we treat them, and there is evidence that infants and children from very young ages make social evaluations of others and adapt their behavior toward them in response to those evaluations. For example, in an adapted version of the Helper and Hinderer task with six-month-old infants, a wooden character would repeatedly attempt to reach the top of a hill (Hamlin, 2015). This character had eyes pointing up to the top of the hill, pointing down to the ground, or no eyes at all. In the helper condition, another character would come up behind and push it up the hill; in the hinderer condition, a character would come from the top and push it down the hill. The helper and hinderer characters would then be presented to the six-month-old infants for choosing. When the character’s eyes were looking to the top of the hill, the infants preferred the helper over the hinderer; however, when the eyes were missing or pointing down, the infants chose randomly. Hamlin (2015) argues that the infants demonstrated the ability to not only infer a character’s goal by the direction of their gaze, but also preferred a character who assisted in goal fulfillment.
Children have been shown not only to prefer a character based on their judgment of them, but to adjust their prosocial behavior toward a character according to that judgment. In a puppet show study, toddlers aged 19- to 21-months demonstrated how their evaluation of a puppet affects their giving behavior toward it (Van de Vondervoort et al., 2018). The puppet show featured a boy puppet attempting to reach a toy unsuccessfully. After ceasing to attempt to retrieve the toy, another puppet would either reach the toy and hand it to the boy (prosocial) or would reach the toy and run off the stage with it (antisocial). The prosocial and antisocial puppets would then establish one of two toys as their preferred toy using statistics. For example, a box would have a picture of many toy ducks and a few frogs, then the puppet would repeatedly only retrieve frogs from the bin while talking about the frogs. This procedure informs the toddler that the puppet is intentionally choosing the frog, thereby establishing the frog as the character’s preferred toy. After the preferred toy is established, and both toys are placed in front of the toddler, the puppet would repeatedly ask for a toy. The researchers evaluated whether the toddler shared the preferred toy (prosocial), the unpreferred toy (ambiguous), or did not share at all (antisocial). Van de Vondervoort and colleagues found that toddlers more often acted prosocially toward the prosocial puppet by giving it the preferred toy. Toddlers who viewed the antisocial puppet more often acted antisocially toward it by not giving any toy at all. This study demonstrated how toddlers evaluated the puppet’s behavior as prosocial or antisocial and adjusted their giving behavior toward the puppet according to that evaluation.

Preschoolers have also been shown to make the types of social evaluation shown by infants and toddlers. In a puppet show study with 3- to 5-year-old children, three bear puppets were established as the protagonist, a similar bear, and a dissimilar bear (Paulus & Moore, 2014). In the prosocial condition, the protagonist had one sticker or balloon, and could also give a
second item that was not the protagonist’s to the similar bear. In the sharing condition, the protagonist had two stickers or balloons, and could give up one to share with the similar bear. In both conditions, the child was asked what the protagonist bear would do. This process was repeated, but with the child as the protagonist and two Playmobile toy figures to represent a liked and disliked peer. As expected, Paulus and Moore (2014) found that children were more equitable in the prosocial than the sharing condition across age groups because there was no personal loss involved. When the three-year-old children gave a sticker or balloon away, they did not significantly differentiate between the toys that represented a liked or disliked peer, but the four- and five-year-old children increasingly were more equitable toward the liked than the disliked peer. Five-year-old participants in particular acted generously toward liked peers and stated an expectation that their friend would also act generously, citing reciprocation as a potential motivator for behaving more equitably toward a friend than a disliked peer. This study demonstrates that four- and five-year-old children adjust their sharing behavior, an aspect of prosociality, toward others based on whether the recipient was liked by the child.

This idea is further supported by Vogelsang and Tomasello (2016), who examined 3- and 5-year-old children’s reciprocating behavior toward a puppet who either gave them gummy bears or took gummy bears away from them. In the giving condition, the puppet would begin with ten gummy bears and then share three, five, or seven of them with the child, who would then receive ten gummy bears and be given the opportunity to share with the puppet. Similarly, for the taking condition, the child would begin with ten gummy bears and the puppet would take three, five, or seven of them from the child, with the child then given the opportunity to take from the puppet. The results showed that children who received more in a sharing condition acted more generously toward the puppet. When children were left with a certain number of gummy bears
(e.g., seven in a take-3 condition or a give-7 condition), they responded more generously when that number was given to them than when it was the leftover amount after taking. The difference in generosity can be explained by the distinction between children’s perceptions of giving and taking; children responded more generously when they were given gummy bears than when they were taken away, even if they were left with the same amount both ways, perhaps because giving is considered prosocial and taking is considered antisocial. These results provide further support that children’s evaluations of a behavior as friendly or unfriendly (prosocial or antisocial) can affect their prosocial response, and that reciprocating generosity is a motivator for sharing behavior.

It is clear that young children make social evaluations of others and adjust their preferences and prosocial behavior accordingly. Hamlin (2015) argued that infants prefer characters who assist in goal fulfillment; Van de Vondervoort (2018) demonstrated that toddlers adjust their prosocial behavior based on their evaluation of the recipient; and Paulus and Moore (2014) showed that four- and five-year-old children gave equitably more often to liked peers than to disliked peers. Vogelsang and Tomasello (2016) also provided evidence that reciprocation of friendly behavior is a motivator for acting prosocially. One of the influences on evaluations of others that becomes more salient with age is a person’s status as an ingroup or outgroup member. Ingroup biases have a powerful influence on perception and expectations of others, and their empathic responses toward them, even in young children.

**Ingroup Biases**

Ingroup bias, or a bias towards people who share a similar quality, has an important role in how children evaluate their peers. At young ages, children engage in group identification that involves categorizing people by their shared qualities and expressing preferences for similar
others (Rutland & Killen, 2017). Because children’s judgments of others affect prosocial behavior outcomes, it is important to study the many factors that influence those judgments. Although few studies directly examine racial ingroup biases in young children, the ones that do have striking results. Using 1, 2, or 3 coins at a time, 3- to 5-year-old White children allocated coins to two characters in either a Black-White pairing or a Boy-Girl pairing (Renno & Shutts, 2015). In the Black-White condition, the White child was presented with a White other and a Black other to whom they could give their coins. Prior to the tasks, they were asked about their preferences (“Who do you like?”) and expectations of prosociality (“Who would help you?”). In 2-coin trials, around 80% of the participants gave one to each target, displaying equitability. In the 1- and 3-coin trials, participants gave more to same-gender and White others compared to other-gender and Black others. Children also stated a preference for and expectation of prosociality from same-gender and White others, suggesting that reciprocation is a possible motivator for this biased behavior. This study demonstrates not only that White children prefer and expect prosociality from other White children, but that they will give more and act more prosocially toward White peers than Black peers. The relation between giving behavior and expectations of prosociality in the race condition was significant, although giving behavior was not significantly related to racial preference. This relation between preference, expectations of prosociality, and cross-racial sharing behavior was further examined in the present study.

Children’s expectations that similar others will help them is one of three explanations for young children’s biased behavior explored by Over (2018). Children may be biased toward ingroup members because of a preference for them or because they assume those in their social group would reciprocate, as demonstrated by Paulus and Moore (2014) and Renno and Shutts (2015). Another possible explanation is dehumanization, or the tendency to not attribute human
qualities to outgroup members. McLoughlin et al. (2018) tested the possibility that dehumanization might contribute to the explanation for ingroup bias. They acquainted their 5- to 6-year-old participants with a four-point rating scale (*not at all human, a little bit human, a medium amount human, or completely human*) to rate how human-like a face appeared ranging between a doll’s face and a human face. After familiarizing the children with the task and the rating scale, they were shown eight faces that were morphed to varying degrees with half of the faces representing the ingroup and half representing the outgroup based on gender and geographic location. For the gender condition, half of the faces were male, and half were female. The experimenters explained that half of the faces in the geographic location were from a distant fictional city and half of them were from the child’s hometown, which they labeled with flags representing each city.

Using a similar 4-point rating scale, children were asked to rate how much they liked boys or girls in the gender condition and how much they liked their own versus the distant fictional city in the geographic location condition. Both age groups in both conditions stated a preference for their own gender and geographic group, demonstrating ingroup preference. The most striking result from this study is that in both trials, six-year-old participants rated outgroup members’ faces as looking less human than ingroup members. These results suggest that even children as young as age six years can exhibit a tendency to dehumanize outgroup members.

Adult studies on ingroup biases have demonstrated neurological response differences when viewing ingroup or outgroup members in pain. Mather et al. (2010) and Wang et al. (2015) used fMRI to examine empathic responses in adult participants, and the results of both studies showed stronger responses when viewing racial ingroup members in pain compared to outgroup members in pain. Although these studies demonstrated stronger responses to ingroup members,
Wang et al. (2015) discovered a way to eliminate this result. Prior to viewing the clips of racial ingroup and outgroup members in pain, the participants heard a narrative that included either independent language (e.g., “I” and “me”) or interdependent language (e.g., “us” and “we”). When the participants were primed with independent language, they seemingly perceived everyone as an individual and did not demonstrate stronger empathic responses to ingroup members. Interdependent language presumably primed participants to think about similar others as a collective group that is separate from the outgroup, leading to an increased empathic response when viewing pain in ingroup members. These studies speak to the automatic tendency to categorize or group people together unless primed to view others as unique individuals. Although ingroup bias may motivate us to assist ingroup members, it may also deter us from assisting outgroup members.

Strong empathic responses to ingroup members can therefore serve a positive function, but they can also have negative social implications. Cikara et al. (2011) importantly noted that, “reduced empathic resonance in response to outgroup pain is correlated with higher implicit racial bias” (p.150). The authors also discuss how viewing pain in outgroup members may not only fail to induce empathy, but it may also elicit happiness (i.e., schadenfreude), which can potentially lead to intentional harm of outgroup members. Ingroup biases have the power to reduce or eliminate prosociality toward outgroup members, which heavily contributes to the many divisions between groups in the United States and around the world. Racism, ageism, sexism, and ableism are just a few examples of how ingroup biases have divided humans, and the path to reconciliation must include prosociality.

Ingroup bias has a clear influence on empathy and prosocial behavior, so factors that reduce racial ingroup bias need to be explored. One factor that could potentially reduce bias is
exposure to diverse people and materials during the preschool years. Gaias et al. (2018) examined the influence of exposure in the preschool classroom to diverse people and educational materials with diverse representation on cross-racial friendships and racial bias in first- and third-grade children. Preschool classrooms were observed and rates of diverse children, teachers, and classroom materials such as multicultural books, dolls, and pictures were documented. Researchers found that preschool exposure to diverse materials decreased racial bias, but a more significant path was also discovered: preschool exposure to diverse people increased the likelihood of cross-racial friendship in first grade, which subsequently predicted decreased racial bias. The results of this study suggest that exposure to diverse people may serve as a potentially efficient mechanism to increase cross-racial friendship and decrease racial bias.

**Sharing Behavior and Inhibitory Control**

One important indicator of prosociality in young children is sharing behavior. Young children have been shown to share in a variety of circumstances, but despite knowing the social rule to share equitably, they often will not hold themselves to that standard. A prime example of this is a study involving first through fifth graders who were given four silly bands and asked to relanonymously share with a peer (Blake et al., 2015). The children were either asked how many they would share or how many they should share, and then asked to anonymously share some of their silly bands with a classmate by placing them in an envelope outside of the classroom. The first-grade children demonstrated a wide gap between how much they stated they should share and how much they actually shared, with that gap decreasing with age and typically closing around age 11 years for children with typical self-regulation. Older children were much more likely than younger children to share half of their silly bands. This study demonstrates that
simply knowing a social rule for sharing may not be enough to produce equitable behavior, leading researchers to address other factors that may affect prosocial outcomes.

One factor that may influence sharing behavior is the presence of siblings. Blake et al. (2015) noted that children who had an older sibling were more likely to match their hypothetical sharing amount with how much they actually shared. Another factor that helped children close the gap between “should” and “actual” sharing was inhibitory control. Blake et al. (2015) argued that in order to engage in costly sharing, a child needed to resist the urge to retain the resource, which is an inhibitory control skill. The results confirmed that children who were rated by their parents as higher in inhibitory control displayed giving behavior that more closely followed the stated norm for sharing.

Inhibitory control has been defined as deliberately restraining an automatic or planned response (Miyake & Friedman, 2012; Rea-Sandin et al., 2021). This is an important adaptive skill that enables children to adjust their words or behavior based on their immediate experiences (Williams et al., 1999). In this context, inhibitory control refers to a child’s ability to adjust a dominant response (e.g., ingroup bias, desire to keep a desired resource) in order to change their behavior to adopt a subdominant response (e.g., prosocial behavior, sharing a desired resource).

Although it may be difficult to address implicit racial bias, which has been shown to remain steady throughout the lifespan beginning as young as age four years (Dunham et al., 2008), children and adults may be able to overcome the bias with higher levels of inhibitory control.

Current research has examined the influence of inhibitory control on preschool-aged children’s sharing behavior. For example, Liu et al. (2016) measured inhibitory control using the Day-Night Task but found no significant difference in this measure of inhibitory control between those who shared and those who did not share. Hao (2017) measured inhibitory control using a
Blue-Red Stroop task (where participants were asked to say “blue” when they saw a red card and vice versa) as well as a delay of gratification task. Similar to the results of Liu et al. (2016), there was no correlation between scores on the inhibitory control tasks and sharing behavior in preschool children. Although no relation between inhibitory control and sharing behavior has yet been found for preschool children, parent-reported inhibitory control has been shown to be a potentially impactful influence on sharing behavior in middle childhood (Blake et al., 2015). To provide a different measurement of inhibitory control than was utilized in the aforementioned preschool aged studies, the present study used a parent-reported measure from the Children’s Behavior Questionnaire (CBQ; Rothbart et al., 2001).

The extant research paints a picture of how infants, toddlers, and preschoolers can make social evaluations of others (Hamlin, 2015; Paulus & Moore, 2014; Van de Vondervoort, 2018), how these evaluations are influenced by ingroup biases (Mather et al., 2010; McLoughlin et al., 2018; Over, 2018; Renno & Shutts, 2015; Wang et al., 2015), and preliminary evidence that these biases may be reduced by exposure to diversity in preschool (Gaias et al., 2018). These studies also demonstrate how social evaluations and ingroup biases influence prosociality, namely by leading children to favor those they prefer and act less prosocially toward those they do not prefer. It has also been shown that children’s sharing behavior is influenced by their age, the presence of an older sibling, and their level of inhibitory control (Blake et al., 2015). The present study therefore further explored the influence of exposure to diverse people and inhibitory control because of their demonstrated effect on sharing behavior. In particular, the present study focused on examining factors that are related to preschoolers’ cross-racial sharing behavior.
CHAPTER II: METHOD

The present study sought to increase understanding of factors that may be related to White children’s cross-racial prosocial behavior to help address the problem of racial division in the United States. Gaias et al. (2018) argued that preschool exposure to racial diversity has the potential to increase cross-racial friendship and decrease racial bias in middle childhood. The goal of the present study was to extend the Renno and Shutts (2015) study by examining the relations among parent reports of prosociality, inhibitory control, exposure to people of color and young children’s cross-racial sharing behavior. The relations between sharing behavior and the children’s racial preferences and expectations of prosociality from others were also examined. Four- and five-year-old children viewed Black-White photo pairings for a sticker-sharing task to measure cross-racial sharing behavior, a preference task to measure racial preference, and an expectation of prosociality task to measure expectations of helping behaviors from Black and White others.

Research Question 1: Do White children give more stickers to a White other than a Black other? I hypothesized that when White children share, they would give more stickers to White others than Black others.

Research Question 2: Do parent reports of prosociality, inhibitory control, and exposure to people of color predict cross-racial sharing in White children? I hypothesized that White children who are rated higher in prosociality and inhibitory control and who have had more exposure to people of color in the past three months would share more with Black others than those who are lower in prosociality, inhibitory control, and exposure to people of color.
Research Question 3: Do children’s racial preferences and expectations of prosociality predict their sharing behavior? I hypothesized that children’s sharing behavior would also be predicted by their racial preferences and expectations of prosociality from others.

Participants

Digital survey links and paper surveys were delivered to approximately 400 parents of children aged 48 to 72 months at twelve approved preschools, daycare centers, and private schools in Illinois. A power analysis using G*Power (Erdfelder et al., 1996) indicated that for .05 alpha, .80 beta, and assuming a medium effect size, a total sample size of 77 was needed. Eighty-nine parents returned a completed questionnaire. Five children who were not present or did not provide assent for participation were excluded; 84 children comprised the final sample. Children of color were not excluded from the study, but the primary analysis included only White children (Table 1). One parent of each child also participated by completing the survey (Table 2). Parents were given the option to be entered into a drawing to receive one of five $20 Amazon gift cards. Children received a small prize at the conclusion of their session in addition to the stickers they kept during the sticker sharing task.

Measures

Social Competency Inventory (SCI)

The Social Competency Inventory (SCI; Rydell et al., 1997) included twenty-five items, with seventeen items measuring Prosocial Orientation and eight measuring Social Initiative. The Prosocial Orientation subscale served as a parent-reported measure of prosocial tendency. Cronbach’s alpha for the Prosocial Orientation subscale was most conservatively reported at .87 for parental ratings (Rydell et al., 1997); in the present study, Cronbach’s alpha was .83. Items such as “Plays and cooperates well with peers” were rated on a 5-point scale ranging from does
not apply to applies very well. An average score was calculated from answered questions, creating a score range of 1 to 5.

**Children’s Behavior Questionnaire (CBQ)**

Six items measuring inhibitory control were used from the short form of the Children’s Behavior Questionnaire (CBQ; Putnam & Rothbart, 2006), including items such as “Can wait before entering into new activities if s/he is asked to.” A previous examination of the reliability of the CBQ reported Cronbach’s Alpha at .82 for the standard form and .67 for the short form (Clark et al., 2020). The present study’s initial reliability estimate (Cronbach’s $\alpha = .44$) was low. Additional analysis indicated that the second question (“Prepares for trips and outings by planning things s/he will need”) was problematic, prompting deletion. Although the CBQ is validated for children 3 to 7 years of age, the 4- and 5-year-old children in this study were likely to still rely on parents or teachers for planning and preparing. After deleting this item, the remaining five items yielded an acceptable level of internal consistency (Cronbach’s $\alpha = .70$). An average score was calculated from answered questions (omitting Item 2), creating a score range of 1 to 7.

**Exposure to People of Color**

A 16-item questionnaire was developed for the purposes of this study (see Appendix C). Parents were presented with 16 social roles and were asked to identify whether or not (i.e., Yes or No) there was a person of color in each social role in their child’s life. They were then asked to rate how frequently in the past three months (not at all, sometimes, often) their child came into contact with a person of color in each social role. The first 10 items referenced adults of color (e.g., teacher, coach), followed by 6 items that referenced children of color (e.g., classmate, teammate). This scale served as a measure of exposure to people of color (Cronbach’s $\alpha = .82$).
The measure of frequency was rated on a scale of 0 to 2 (0 = not at all, 1 = sometimes, 2 = often), resulting in a possible range of scores between 0 and 32.

**Sharing Task**

The sharing task was a modified version of the resource task (Renno & Shutts, 2015), adapted to incorporate sharing instead of resource allocation. There were three trials where the child was given two, three, or four stickers. The experimenter explained, “I will give you some stickers, and you can decide if you want to keep them or share them.” For each trial, there were two empty containers underneath two pictures of children on a computer monitor, and the experimenter explained that the child can put stickers in the corresponding container for the child with whom they want to share. A practice round using pictures of a pig and a sheep was used to establish the possible placements of the stickers. The experimenter explained that if the child wanted to give any stickers to the pig, they should put the stickers into the container below the pig, and that if the child wanted to share with the sheep, they should put the stickers into the container below the sheep. The experimenter explained that if the child wanted to keep any stickers, that they could place them in their own container, and if they do not want to keep or share the stickers, they could be placed in an “extra bucket” on the side of the table.

After the practice round, the participants completed three critical trials with Black-White photo pairings viewed on a computer monitor, all gender-matched to the participant. The left-right location of Black and White photos was counterbalanced. The picture stimuli were used in the study by Renno and Shutts (2015). Each picture features a headshot of a smiling child; every pair of photos were matched for attractiveness by adult raters (Renno & Shutts, 2015). Pairs of photos were not repeated so that every trial of every task featured a different pair of faces.
The table setup is displayed in Figure 1. Two containers were placed on the table below each photo on the monitor, along with an additional container to serve as the extra bucket. The child chose one of three color options for their own container, which was then placed directly in front of the child. For each trial after the practice round, the experimenter placed two, three, or four stickers (counterbalanced) in front of the child and said, “Here are two kids, and I have (number) stickers for you. Where do you want to put your stickers?” If the child hesitated or expressed confusion, the experimenter pointed to each of the containers and briefly reminded the child where they could place their stickers. After the child made their choice, the experimenter moved the containers representing the photos behind the monitor, explaining that they will be given to the children in the photos. The experimenter then moved the stickers from the participant’s own container into a paper bag that the child is told they will be able to take home with them at the end. The monitor was then changed to show two new faces, and two new containers of a new color were placed below the pictures on the screen for the next trial. An overall sharing score was calculated for each participant by counting the number of stickers shared with any Black or White other. Black and White sharing scores were also calculated by adding the number of stickers shared with each group respectively. The three trials resulted in an overall sharing score of 0 to 9 as well as a Black sharing score of 0 to 9, with higher scores representing more cross-racial sharing.

Preference Task

The preference task (adapted from Renno & Shutts, 2015) involved the experimenter asking the child who they liked in four trials of Black-White photo pairings on a computer monitor. The experimenter explained that there would be two pictures on the screen and that the child should point to who they like. A practice round with pictures of a pig and a sheep was used
to confirm that the child understood to point to the picture they preferred and that they could point to both if they were equally preferred. To do so, the experimenter said, “Here is the pig and the sheep! Who do you like? If you like just one picture, you can use one finger to point to who you like. But if you like both pictures, you can use two fingers and point to both of them!” After the practice round, there were four trials of Black-White pairings where the experimenter asked the child, “Who do you like?” and recorded their response. Participants received a score of 1 for choosing a Black other, a score of 0 for choosing a White other, and a score of .5 for choosing both or neither. The four trials resulted in a score of 0 to 4 with scores of 0-1 indicating a preference for White others and a score of 3-4 indicating a preference for Black others. A score of 2 was considered a neutral preference. This task served as a measure of racial preference.

Expectation Task

The expectation task (adapted from Renno & Shutts, 2015) was similar to the preference task, except it asked the child to identify who they think would help them. For each of the four trials of Black-White pairings, the participant was given a scenario in which they would need help and asked to point to one or both of the two pictures to identify who would help them in that scenario.

A practice round with the pig and sheep pictures were used again to establish the children’s understanding of how to communicate their choice. After the practice phase, there were four trials of Black-White pairings where the experimenter asked the child different questions about prosocial behavior, such as, “If you fell over on the playground and these kids were close by, who do you think would help you get back up?” Participants received a score of 1 for choosing a Black other, a score of 0 for choosing a White other, and a score of .5 for choosing both or neither. The four trials resulted in a score of 0 to 4 with scores of 0-1 indicating
higher expectations of prosociality from White others and a score of 3-4 indicating higher expectations of prosociality from Black others. A score of 2 was considered neutral. This task served as a measure of expectations of prosociality from others.

**Procedure**

Institutional Review Board approval was obtained (IRB-2021-293), along with site permission from each of the 12 schools, preschools, and daycare centers in Illinois. Families were recruited primarily through survey links and paper surveys that were delivered to parents of children aged 48 to 72 months at the approved locations. Informed consent was obtained from a parent or guardian for their own participation, as well as permission for their child’s participation. Children provided assent prior to participation, and those who did not assent did not participate. Each child was invited to sit at a table in front of a computer monitor in a quiet space at the school. All children were tested individually. The experimenter explained that the stickers would be given to the child and that they could decide whether to keep or share them. The practice trial of the sharing task was administered first, followed by the three critical trials of Black-White pairings.

After the sharing task was completed, the experimenter introduced the preference task. After the practice round and four critical trials of the preference task, the experimenter explained that the child would point to pictures again, but that this time they would need to point to the person who would help them. The child then completed the practice round and four critical trials of the expectation task. After the tasks were finished, the child was given the stickers they kept for themselves as well as a small prize selected from the prize box. Parents could provide their email address to enter a raffle for one of five $20 Amazon gift cards, which were distributed upon completion of data collection. The email addresses were stored separately from surveys.
CHAPTER III: RESULTS

Descriptive statistics and zero-order correlations among study variables are reported in Table 3. To test the first hypothesis, a dependent samples t-test was used to determine whether White children shared more stickers with White others than Black others. This hypothesis was not supported, as White children gave to White others ($M = 2.71$, $SD = 1.24$) only slightly more than Black others ($M = 2.55$, $SD = 1.25$), $t(68) = 1.05$, $p = .295$. Further examination revealed that 34.4% of children gave less than half of their shared stickers to a Black other and 46.9% of children shared stickers equally between Black and White others. Only 18.7% gave more than half of their shared stickers to a Black other.

Follow-up analyses of paired samples t-tests were used to examine children’s use of all nine stickers, revealing that White participants kept more stickers ($M = 3.52$, $SD = 2.19$) than they shared with White others ($M = 2.71$, $SD = 1.24$, $t(68) = 2.04$, $p = .045$) and more than they shared with Black others ($M = 2.55$, $SD = 1.25$), $t(68) = 2.44$, $p = .017$. Comparing the total number of stickers shared ($M = 5.26$, $SD = 2.15$) with the number of stickers kept ($M = 3.52$, $SD = 2.19$) revealed a significant difference, however, indicating that children shared more stickers than they kept, $t(68) = 3.35$, $p = .001$. An examination of the kept stickers revealed that the number of stickers most frequently kept across the three trials was three (34.8%), followed by sharing two or four stickers (14.5% each). Only 23.1% of White participants kept more than half of their stickers (i.e., five or more), and 13% gave less than two. The extra bucket was infrequently used; a total of only 14 stickers (2.25%) were placed in the extra bucket by White participants.

For my second hypothesis, I predicted that White children who are rated higher in prosociality and inhibitory control and who have had more exposure to people of color in the
past three months would share more with Black others than those who are lower in prosociality, inhibitory control, and exposure to people of color. I used a multiple regression analysis to test the hypothesis. This hypothesis was not supported, $R^2 = .02$, $F(3, 62) = .40, p = .753$. Bivariate correlations revealed a significant correlation between prosociality and inhibitory control scores ($r = .45, p < .001$), but no other significant relations among these four variables were found.

People of color were most frequently noted in the roles of adult neighbor (63%), adult friend (70.7%), child friend (75.6%), and child classmate (87.7%). The most infrequently cited roles were babysitter (5.3%) and housekeeper (5.6%).

To address the third hypothesis, I used a regression analysis to examine the relations among cross-racial sharing scores, racial preferences, and expectations of help from Black others (see Table 4). I hypothesized that children’s sharing behavior would be predicted by their racial preferences and expectations of prosociality from others, and this hypothesis was supported, $R^2 = .13$, $F(2, 66) = 4.75, p = .012$.

Although preference and expectation were highly correlated ($r = .61, p < .001$), expectations of prosociality from Black others held a negative weight in the regression analysis and was not significantly correlated with cross-racial sharing ($r = -.04, p = .737$). To examine this phenomenon further, a hierarchical regression analysis was used to test for suppression (see Table 4). Preference for Black others was entered in Step 1 and expectations of prosociality from Black others was entered in Step 2. Although preferences alone significantly positively predicted cross-racial sharing, $R^2 = .06$, $F(1, 67) = 4.61, p = .035$, a significant change in explained cross-racial sharing variance was revealed in Step 2, indicating a case of suppression, $\Delta R^2 = .06$, $F(1, 66) = 4.64, p = .035$. Expectations of help appeared to negatively predict cross-racial sharing while simultaneously adding predictive power to the model.
The significant relation between preference for Black others and cross-racial sharing scores \( r = .25, p = .035 \) and between preference and expectations of help from Black others \( r = .61, p < .001 \) prompted a search for a better model to fit the data from these three variables. A moderation model was tested to determine whether expectations of help may be changing the relation between racial preferences and cross-racial sharing behavior (Figure 2).

The moderation model was tested using a hierarchical regression analysis. Preference and expectations were entered in Step 1 and a computed interaction term for the two variables was entered in Step 2 (see Table 5). The addition of the interaction term created a significant change in explained variance of cross-racial sharing, \( \Delta R^2 = .05, F(1, 65) = 4.06, p = .048 \). The moderation model was thus significant, \( R^2 = .18, F(3, 65) = 4.67, p = .005 \).
CHAPTER IV: DISCUSSION

The goal of this study was to examine factors that may be related to cross-racial prosocial behavior in White children. I hypothesized that when White children were given the opportunity to share that they would give more stickers to White others than Black others. Participants shared the same number of stickers with White others than Black others. Although the present study was largely modeled after Renno and Shutts (2015), a change in design occurred in the shift from coin allocation to sticker sharing. In the original study, children were given coins and were forced to divide them between two pictured others; the children did not have the option to keep the coins. The present study adapted this design with the purpose of creating a prosocial measure by giving children the stickers and stating that their stickers could be kept or shared as the child desired. A shift from allocating a previously unpossessed item to sharing a previously possessed item has been demonstrated to produce different giving results in four- and five-year-old children (Paulus & Moore, 2014), indicating that these two experiences are not identical and may measure different constructs. This design change may account for the higher rates of equitable sharing, as 46.9% of participants shared the same number of stickers with Black others as White others.

Although both the original and present study included an “extra bucket” for children to place items that they did not want to keep, share, or allocate, the current task design also allowed for stickers to be kept. Children kept more stickers than they shared with White others and kept more stickers than they shared with Black others, but the total number of stickers shared was significantly more than the stickers kept. Although the difference between the number of stickers shared and kept was significant, there was no significant difference found between Black sharing and White sharing scores. This result indicates the possibility that the four- and five-year-old participants more often divided their shared stickers evenly between Black and White others.
because the perceived division occurred between sharing and keeping instead of Black and White.

As previously mentioned, only 14 stickers (2.25%) were placed in the extra bucket. Additionally, 11 of these 14 stickers were placed in the extra bucket on four-sticker trials. In other words, on those 11 trials, children placed one sticker in each of the four possible containers (left, right, self, extra). This pattern of behavior may indicate that the children did not understand that multiple stickers could be placed in one container. Alternatively, it may have been a way of not having to choose to favor oneself or to choose between the two alternatives.

My second hypothesis was that White children who were rated higher in prosociality and inhibitory control and who had more exposure to people of color in the past three months would share more with Black others than those who are lower in prosociality, inhibitory control, and exposure to people of color. Blake et al. (2015) provided support for inhibitory control as a factor for increasing sharing behavior, and Gaias et al. (2018) provided evidence for exposure to people of color in preschool as a predictor of increased cross-racial friendships and decreased racial bias. These variables did not significantly predict cross-racial sharing scores, preferences for Black others, or expectations of help from Black others for White participants in this study, prompting a discussion of possible explanations.

Other studies have examined the relation between inhibitory control and sharing behavior in preschool children using Stroop tasks and delay of gratification tasks, finding no significant relation (Hao, 2017; Liu et al., 2016). The present study utilized a parent-reported measure of inhibitory control but obtained the same results, providing further support that various measures of inhibitory control may be unrelated to sharing behavior in preschool children. Blake et al. (2015) examined inhibitory control in relation to how many of four items a child shared with an
unknown other in one trial; the present study examined sharing with two pictured others over three trials with differing numbers of items. Perhaps the complexity of the present study’s design and increased sources of influence (e.g., seeing the receiver, choosing between two receivers, multiple sharing opportunities) discounted the impact of inhibitory control on children’s sharing decisions. However, inhibitory control was significantly positively correlated with prosociality, such that parents who rated their child higher on inhibitory control also rated them higher on prosocial orientation.

A measure of exposure to people of color was created for the purpose of this study and had been previously untested. A reliability estimate was calculated for the 51 (60.7%) participants with a complete data set and revealed strong internal consistency (Cronbach’s α = .82). However, it was problematic that 33 (39.3%) participants had incomplete data for this variable. Parents were asked a dichotomous yes-or-no question of whether there was a person of color in each social role in their child’s life, followed by a three-point Likert rating of how often their child came in contact with that person in the past three months. Parents frequently responded to one question or the other or indicated the presence of a person of color for multiple social roles but only provided frequency ratings for some of them. This large gap in the data for the exposure to people of color measure may have contributed to its insignificant relations with other variables. However, after controlling for age, exposure to people of color was found to be significantly correlated with preferences for Black others. As preferences for Black others significantly positively predicted cross-racial sharing scores, perhaps exposure to people of color has an indirect relation with cross-racial sharing behavior dependent on the child’s age. Due to the incomplete measure of exposure to people of color, the present study was underpowered to examine this model.
Finally, I hypothesized that children’s sharing behavior would also be predicted by their racial preferences and expectations of prosociality from others. Preferences for Black others and expectations of prosociality from Black others were highly correlated with each other and together predicted Black sharing scores in a multiple regression analysis. Without the addition of expectation scores to the model, preferences alone significantly positively predicted cross-racial sharing, a result which is supported by extant literature. A tenant of social psychology is the inclination to help those whom we like (Cialdini & Griskevicius, 2010). Additionally, Renno and Shutts (2015) reported that White preschool children more often stated a preference for White others than Black others and also allocated more coins to White others than Black others, indicating a relation between preference and giving behavior.

Although preferences positively predicted cross-racial sharing, expectations of prosociality appeared to negatively predict cross-racial sharing. Further exploration of the data revealed a significant moderation effect, with expectations of prosociality from Black others negatively moderating the relation between preferences for Black others and cross-racial sharing. This relation between the three variables is puzzling. Despite support for following social norms as an explanation of children’s ingroup biases (Over, 2018) and for White children expecting more help from White others than Black others (Renno & Shutts, 2015), the present study’s results do not align with this research. The moderation model suggests that the relation between children’s preferences for Black others and the number of stickers they share with a Black other is negatively moderated by expectations of help from Black others, such that more stickers are shared when children have high preference scores and low expectation scores. As previous research would suggest that children will share with those whom they would expect to reciprocate, this finding is surprising.
One explanation may be that although children have been known to expect more prosociality from ingroup than outgroup members, this expectation may not translate to engagement in prosocial behavior. In one such study, child participants expected more generosity from ingroup than outgroup members but did not allocate significantly more resources with ingroup than outgroup members (Dunham et al., 2011). Further, children have been shown to expect others to preferentially treat ingroup members but to evaluate equal treatment or preferential treatment to the outgroup as “nicer” (DeJesus et al., 2014). Perhaps children in the present study shared equally between racial ingroup and outgroup members because they consider it “nice” rather than based on what they would expect from them.

**Strengths and Limitations**

A significant strength of the present study was the examination of previously supported predictors of sharing behavior (i.e., prosocial tendencies and inhibitory control) in conjunction with a parent report of exposure to people of color. Although the latter was underpowered due to incomplete data, it was possibly the first parent-reported measure of its kind, and it should provide a foundation for future research in the pursuit of a more accurate and effective measure of exposure to people of color. Another strength of the present study was the ability to gather from preschool children measures of sharing, preferences, and expectations of help in approximately five minutes. The setup was well-suited for four- and five-year-old children, who evidently found the stickers appealing (94% kept at least one sticker) and the tasks engaging. Although held in a room outside of their classroom, the experiment was conducted in a quiet space within the child’s school, inducing comfortability and even excitement for the special activity. The children were therefore engaged in the activity with minimal disruption of their daily routine.
The present study faced some limitations, including recruitment during a pandemic, the use of a previously untested measure, and the use of sharing as a measure of prosociality. Of the thirty-six schools contacted about recruitment for this research study, only twelve schools agreed to participate, with COVID-19 as the most commonly cited reason for denying site permission. Many schools at the time of recruitment did not allow anyone except for teachers and children in their buildings, so an unaffiliated guest was typically unwelcome. Over 400 parents of four- and five-year-old children at the twelve approved schools received a paper survey packet or a link to the digital survey, but only 89 returned a completed questionnaire, reflecting about a 22% response rate. The pandemic contributed to limited access to schools, producing a sample size that was underpowered for some analyses. The sample size of 69 was less than the needed sample size of 77 as indicated by a power analysis, which limited the ability to detect patterns with small or medium effect sizes.

Another limitation of this study can be found in the use of a previously untested measure of exposure to people of color. This measure was created for the purpose of this study to obtain a parent-reported estimate of a child’s frequency of exposure to adults and children of color. Although the measure appeared to be straightforward, many parents failed to complete the measure in full, resulting in missing data for 39.3% of participants. The limited sample size was thus further reduced by an incomplete measure of exposure to people of color, which possibly contributed to the lack of statistically significant relations found with this measure.

The dependent variable capturing cross-racial prosociality took the form of sharing behavior, which may have proven to be problematic. Although children shared more stickers than they kept, 46.9% of participants divided their shared stickers equally between Black and White others. It was expected that the three-sticker trial would be the most equitable (i.e.,
children would keep one, share one with the White other, and share one with the Black other), and in fact 71% of White participants expressed this pattern. We also expected the two- and four-sticker trials to be less equitable, assuming children would share more with one group or the other with the extra sticker. However, 47.8% of participants in two-sticker trials shared both stickers by giving one to each of the two pictured others. In four-sticker trials, 43.5% shared one sticker each with the two pictured others and kept the remaining two stickers. With nearly half of participants still sharing stickers equally between Black and White others in the two- and four-sticker trials, in addition to the 71% in three-sticker trials, the variance in cross-racial sharing was diminished. These results suggest that unlike Renno and Shutts (2015), where the dichotomous choice was found between choosing a White other or Black other, the choice in the present study was found between keeping and sharing.

**Future Directions and Conclusions**

Further research on factors that influence cross-racial prosocial behavior in young children can assist parents and early childhood educators in building a foundation for increased cross-racial friendship and decreased racial bias. Future research should examine effective measures of exposures to people of color that are straightforward for respondents but also represent an accurate estimate of exposure. Recruitment for research will hopefully not be burdened by COVID-19 in the future, allowing studies to reach substantial sample sizes with greater statistical power. As the four- and five-year-old children in this study did not often differentiate between recipients when they shared, it is suggested that other measures of prosociality besides sharing should be examined in future research. Finally, a more complete examination of cross-racial sharing beyond the dichotomous White and Black sharing that was used in the present study should be conducted.
White participants did not share significantly more stickers with White others than Black others, but they shared more stickers than they kept, indicating that a sharing design may produce a different salient choice than an allocation design. Parent-reported prosociality and inhibitory control were highly correlated but did not significantly predict cross-racial sharing or total sharing scores, suggesting that prosocial tendencies and high levels of inhibitory control may measure different aspects than sharing behavior in preschool children. When controlling for age, exposure to people of color was significantly correlated with preferences for Black others; the directionality of this relation needs further exploration. Finally, preferences for Black others and expectations of help from Black others significantly predicted cross-racial sharing, although the data suggests that lower levels of expectations of help may produce higher levels of sharing.

Racism is a striking issue around the world, but in the United States in particular. Viewing racial outgroup members as separate from ingroup members has historically resulted in slavery, concentration camps, and genocide, and more currently has resulted in bombings and shootings of people with minoritized identities. The road to a more peaceful future begins with children, with those who will grow up to lead our world in the coming decades. Discovering factors that are related to children’s cross-racial prosociality may be important in changing a divided world to one of cooperation, cohesiveness, and kindness.


https://doi.org/10.1371/journal.pone.0147539


## Table 1

*Demographic Details for Child Participants*

<table>
<thead>
<tr>
<th></th>
<th>All Child Participants</th>
<th>White Child Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n = 84 )</td>
<td>( n = 69 )</td>
</tr>
<tr>
<td>Age in months</td>
<td>45-68 ( M = 56.73 )</td>
<td>45-68 ( M = 56.72 )</td>
</tr>
<tr>
<td>Female</td>
<td>37 (44%)</td>
<td>27 (39.1%)</td>
</tr>
<tr>
<td>Male</td>
<td>47 (56%)</td>
<td>42 (60.9%)</td>
</tr>
<tr>
<td>White</td>
<td>69 (82.1%)</td>
<td>69 (100%)</td>
</tr>
<tr>
<td>Black</td>
<td>2 (2.4%)</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>1 (1.2%)</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>1 (1.2%)</td>
<td></td>
</tr>
<tr>
<td>Biracial</td>
<td>11 (13.1%)</td>
<td></td>
</tr>
</tbody>
</table>
**Table 2**

*Demographic Details for Parents*

<table>
<thead>
<tr>
<th></th>
<th>Caregiver 1 (n = 83)</th>
<th>Caregiver 2 (n = 72)</th>
</tr>
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<tbody>
<tr>
<td>Married</td>
<td>73 (88%)</td>
<td>69 (95.8%)</td>
</tr>
<tr>
<td>Single</td>
<td>7 (8.4%)</td>
<td>1 (1.4%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>3 (3.6%)</td>
<td>2 (2.8%)</td>
</tr>
<tr>
<td>Biological parent</td>
<td>82 (98.8%)</td>
<td>71 (98.6%)</td>
</tr>
<tr>
<td>Adoptive parent</td>
<td>1 (1.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Stepparent</td>
<td>0 (0%)</td>
<td>1 (1.4%)</td>
</tr>
<tr>
<td>Female</td>
<td>71 (85.5%)</td>
<td>11 (15.3%)</td>
</tr>
<tr>
<td>Male</td>
<td>12 (14.5%)</td>
<td>61 (84.7%)</td>
</tr>
<tr>
<td>White</td>
<td>77 (92.8%)</td>
<td>61 (84.7%)</td>
</tr>
<tr>
<td>Black</td>
<td>2 (2.4%)</td>
<td>2 (2.8%)</td>
</tr>
<tr>
<td>Asian</td>
<td>2 (2.4%)</td>
<td>5 (6.9%)</td>
</tr>
<tr>
<td>Biracial</td>
<td>2 (2.4%)</td>
<td>2 (2.8%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0 (0%)</td>
<td>2 (2.8%)</td>
</tr>
<tr>
<td>Age 26-35 years</td>
<td>41 (49.4%)</td>
<td>26 (36.1%)</td>
</tr>
<tr>
<td>Age 36-45 years</td>
<td>41 (49.4%)</td>
<td>44 (61.1%)</td>
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<tr>
<td>Age 46-55 years</td>
<td>1 (1.2%)</td>
<td>2 (2.8%)</td>
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<tr>
<td>8th grade</td>
<td>1 (1.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>High School</td>
<td>12 (14.5%)</td>
<td>10 (13.9%)</td>
</tr>
<tr>
<td>Bachelors</td>
<td>41 (49.4%)</td>
<td>30 (41.7%)</td>
</tr>
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(Table Continues)
Table 2, Continued

<table>
<thead>
<tr>
<th></th>
<th>Caregiver 1 (n = 83)</th>
<th>Caregiver 2 (n = 72)</th>
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<tbody>
<tr>
<td>Masters</td>
<td>21 (25.3%)</td>
<td>24 (33.3%)</td>
</tr>
<tr>
<td>PhD, JD, or MD</td>
<td>8 (9.6%)</td>
<td>8 (11.1%)</td>
</tr>
<tr>
<td>$0-$30k</td>
<td>8 (9.6%)</td>
<td>1 (1.4%)</td>
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<tr>
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<td>9 (10.8%)</td>
<td>6 (8.3%)</td>
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<tr>
<td>$61k-$90k</td>
<td>20 (24.1%)</td>
<td>19 (26.4%)</td>
</tr>
<tr>
<td>$91k+</td>
<td>46 (55.4%)</td>
<td>46 (63.9%)</td>
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</tbody>
</table>
Table 3

**Descriptive Statistics and Zero-Order Correlations Among Study Variables**

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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age in months</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td>-.03</td>
<td>---</td>
<td>-.23</td>
<td>-.27*</td>
<td>.06</td>
<td>-.08</td>
<td>.04</td>
<td>.05</td>
</tr>
<tr>
<td>3. Prosocial</td>
<td>-.03</td>
<td>-.27*</td>
<td>---</td>
<td>.42***</td>
<td>.11</td>
<td>.00</td>
<td>-.01</td>
<td>.04</td>
</tr>
<tr>
<td>4. Inhibitory Control</td>
<td>-.06</td>
<td>-.30*</td>
<td>.45***</td>
<td>---</td>
<td>.16</td>
<td>-.02</td>
<td>-.01</td>
<td>.05</td>
</tr>
<tr>
<td>5. Exposure to POC</td>
<td>.14</td>
<td>.03</td>
<td>.11</td>
<td>.15</td>
<td>---</td>
<td>.12</td>
<td>.25*</td>
<td>.05</td>
</tr>
<tr>
<td>6. Cross-racial Sharing</td>
<td>.06</td>
<td>-.10</td>
<td>.01</td>
<td>-.02</td>
<td>.14</td>
<td>---</td>
<td>.26*</td>
<td>-.05</td>
</tr>
<tr>
<td>7. Preference for Black others</td>
<td>-.09</td>
<td>.07</td>
<td>-.01</td>
<td>-.02</td>
<td>.23</td>
<td>.25*</td>
<td>---</td>
<td>.62***</td>
</tr>
<tr>
<td>8. Expectations of help from Black others</td>
<td>-.15</td>
<td>.04</td>
<td>.13</td>
<td>.08</td>
<td>.02</td>
<td>-.04</td>
<td>.61***</td>
<td>---</td>
</tr>
</tbody>
</table>

**Note.** Partial correlations controlling for age reported above the diagonal.

*p < .05; **p < .01; ***p < .001
**Table 4**

*Hierarchical Multiple Regression Analysis Predicting Cross-Racial Sharing from Preference for and Expectations of Prosociality from Black Others*

<table>
<thead>
<tr>
<th>Model</th>
<th>Predictor</th>
<th>$B$</th>
<th>$SE\ B$</th>
<th>$\beta$</th>
<th>$sr^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preference</td>
<td>0.29</td>
<td>0.14</td>
<td>0.25*</td>
<td>.25</td>
<td>.06*</td>
</tr>
<tr>
<td>2</td>
<td>Preference</td>
<td>0.51</td>
<td>0.17</td>
<td>0.44**</td>
<td>.35</td>
<td>.13**</td>
</tr>
<tr>
<td></td>
<td>Expectation</td>
<td>-0.36</td>
<td>0.17</td>
<td>-.31*</td>
<td>-.26</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001
Table 5

*Expectations of Help from Black Others as a Moderator of the Relationship between Preference for Black Others and Cross-Racial Sharing*

<table>
<thead>
<tr>
<th>Model</th>
<th>Predictor</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>sr²</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preference</td>
<td>0.51</td>
<td>0.17</td>
<td>0.44**</td>
<td>.35</td>
<td>.13*</td>
</tr>
<tr>
<td></td>
<td>Expectation</td>
<td>-0.36</td>
<td>0.17</td>
<td>-0.31*</td>
<td>- .26</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Preference</td>
<td>0.89</td>
<td>0.25</td>
<td>0.78***</td>
<td>.40</td>
<td>.18**</td>
</tr>
<tr>
<td></td>
<td>Expectation</td>
<td>0.00</td>
<td>0.25</td>
<td>0.00</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Preference X</td>
<td>-0.24</td>
<td>0.12</td>
<td>-0.62*</td>
<td>- .24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expectations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001
Figure 1

The table setup for the sharing task.
Figure 2

The moderation model diagram.

Preference for Black Others

Expectations of Help from Black Others

Cross-Racial Sharing Behavior
Figure 3

The moderation model graph.
APPENDIX C: EXPOSURE TO PEOPLE OF COLOR MEASURE

For the following questions, please consider a person of color to be Black, Hispanic, Asian, American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander.

Please indicate YES or NO if there is an adult of color in your child’s life in each of the following social roles. Please also indicate how often (Not at all, Sometimes, Often) your child came in contact with an adult of color in each social role in the past 3 months.

<table>
<thead>
<tr>
<th>Adult</th>
<th>Is there a person of color in this role in your child’s life?</th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family member</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coach</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Babysitter</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House guest</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbor</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious/Spiritual Leader or Teacher</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare Provider (e.g., dentist, pediatrician)</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housekeeper</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: ___________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate YES or NO if there is a child of color in your child’s life in each of the following social roles. Please also indicate how often (Not at all, Sometimes, Often) your child came in contact with a child of color in each social role in the past 3 months.

<table>
<thead>
<tr>
<th>Child</th>
<th>Is there a person of color in this role in your child’s life?</th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teammate</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classmate</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbor</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared group member (e.g., Boy or Girl Scouts)</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: ___________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>