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# The Influence of Reputation Concerns and Social Biases on Children's Sharing Behavior

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## Abstract

The present research builds on prior work on the social-contextual nature of children's generosity by systematically examining both observer effects and whether the recipient is an in-group or out-group member. Although previous research has examined these factors independently, no study to date has examined them in conjunction. We also extend prior research by including both measures of sharing behavior and children's evaluations of sharing scenarios, and by investigating a larger sample (N=164) with a broader age range than is typical of prior research (5- to 9-year-olds). We found that, across the entire age range tested, children were generous when observed and gave more to in-group members than out-group members, and that there was no interaction between these effects. We also found that children's own sharing behavior predicted their evaluations of sharing scenarios, with children rating in-group sharing as "nicer" than out-group sharing.

**Keywords:** sharing; prosocial behavior; in-group/out-group; reputation concerns; observer effects

## Introduction

Humans share with one another for many reasons, including an expectation that others may reciprocate, and, in some circumstances, the knowledge that giving may enhance their own reputation among peers (e.g., when giving occurs publicly). Previous work suggests that children are sensitive to these factors relatively early in life, giving more to people who are similar to them, and making efforts to manage their reputations by acting more generously in the presence of onlookers. However, these studies have not explored how children weigh factors during individual acts of sharing, and whether, for example, they consider their reputation less when giving to people closer to them (e.g., friends, family, or other in-group members), or instead consider their reputation equally whether giving to strangers or to closer acquaintances. We look at this issue from a behavioral perspective, examining children's decisions about sharing their own resources in the presence or absence of an observer, and from a social evaluative perspective, examining how children evaluate the decisions others make about sharing resources.

A growing body of research demonstrates that, beginning early in life, children behave in a cooperative manner (Hay, 1979; Hay & Murray, 1979; Warneken & Tomasello, 2007) and become increasingly concerned with upholding social norms regarding fairness as they get older. Whereas young

children (3- to 5-year-olds) verbally express strong preferences for equal outcomes (Ng, Heyman & Barner, 2011) and react emotionally to inequity (Geraci & Surian, 2011; Sutter, 2007), older children (7- to 8-year-olds) are more likely to display egalitarian behavior when allocating resources (LoBue, Nishida, Chiong, DeLoache & Haidt, 2011; Smith, Blake & Harris, 2013), particularly in situations where it is costly to do so (Blake & McAuliffe, 2011). This developmental pattern of stronger inequity aversion in later years may arise from a growing motivation for fairness and attention to the needs of others, or it may reflect a concern with displaying oneself as a cooperative and useful social partner (Warneken & Tomasello, 2009). In the latter case, older children may differ from younger children in that they are simply better at strategically displaying cooperative behavior (Shaw et al., 2014).

Numerous studies show that children, like adults, are more cooperative when they believe that their behaviors will be made known to others versus anonymously (Aloise-Young, 1993; Banerjee, 2002; Engelmann, Over, Herrmann & Tomasello, 2013; Harbaugh & Krause, 2000; Milinski, Semmann & Krambeck, 2002). Children steal less and help more in the presence of a peer observer (Engelmann et al., 2013), and are more generous with their resources when others are aware of their actions (Leimgruber, Shaw, Santos & Olson, 2012).

However, one primary limitation of these studies is that, by manipulating only audience effects, they provide only a single factor account of children's motivations to act altruistically. Yet, it is very possible that different social factors, such as the child's relation to the recipient, may give rise to different reasons for giving. For example, children's sharing of resources with parents or close friends may be motivated by concerns for the recipient's well being rather than by a desire to maintain a positive reputation. On the other hand, in cases where the recipient is a stranger, and future interaction with the recipient is unlikely, reputation concerns may play a larger role in determining children's sharing behavior. Additionally, there may be contexts where children may be motivated by both reputation concerns and concerns for the recipient.

In sum, by studying children's motivations for giving independently of social context, past studies have not considered the possibility that children's developing

concern with reputation may be mediated by the particular social relationship that they have with the recipient of their giving. To explore this, the current study manipulated both audience effects and the child's social relation to the recipient to address this possibility. Specifically, we examined whether children's sharing tendencies would differ as a function of whether or not (a) they were observed by a neutral onlooker and (b) the potential recipient shared a social identity with them.

Various studies show that children attend to the social identity of potential recipients, and often prioritize members of their own social group when allocating resources (Bernhard, Fischbacher & Fehr, 2006; Bigler, Jones & Lobliner, 1997; Dunham, Baron & Carey, 2011; Fehr, Bernhard & Rockenbach, 2008; Goette, Huffman & Meier, 2006). One means by which children establish their own social identity is via social groups, which promote cohesion among similar individuals (in-group members) while emphasizing the dissimilarities of others (out-group members) (Brewer, 1991). The categorization of social groups can be affected by meaningful shared identities such as gender, nationality, and race (Tajfel & Turner, 2004), or they can be determined by a mere categorical distinction (Tajfel, Billig, Bundy & Flament, 1971; Tajfel, 2001). Tajfel coined the term "minimal group" to refer to arbitrarily constructed social groups such as the "red" and "blue" group. These meaningless social groups are sufficient to induce children and adults' preferences for in-group members across a wide range of measures including resource allocation in both kids and adults (Dunham et al., 2011; Locksley, Ortiz & Hepburn, 1980; Spielman, 2000; Tajfel & Turner, 2004). Additionally, there is strong evidence of in-group biases when social groups are meaningful or familiar (Killen, Margie & Sinno, 2006; Rutland, Killen & Abrams, 2010; Smetana, Killen & Turiel, 1991). These findings demonstrate that regardless of how groups are established, children weigh considerations for fairness and cooperation in relation to their obligations towards in-group members.

The current study used minimal groups to establish a social relationship between the giver and recipients. Specifically, we examined if the basis for children's sharing tendencies would change based on whether the recipient was a member of their in-group or out-group. Our design eliminated the expectation of reciprocity by using "fake" recipients who children would never interact with. Furthermore, we used a neutral observer who was not a member of the child's in-group or out-group. Previous studies have shown that children behave more prosocially when the observer is an in-group member compared to an out-group member (Engelmann et al., 2013). Since we did not want the in-group/out-group status of the observer to confound with other factors, such as anticipation of punishment or rewards from the observer, we selected a neutral onlooker. This also allows us to test whether children are sensitive to reputation concerns when the observer does not have a group affiliation or vested interest.

By testing for audience effects in the context of intergroup sharing we sought to differentiate children's motivations for giving. If children's sharing behavior is not influenced by social biases, we would expect them to give equally to in-group and out-group members—both in the presence and absence of an observer. If children's giving is subject to reputation concerns, we would expect them to donate more resources overall in the presence of an observer. Additionally, if children's giving is motivated by a bias towards the potential recipient and their desire to maintain a positive reputation, we might expect their intergroup sharing to change as a function of whether or not they are observed.

Children of all ages may give more to in-group members when observed than not observed simply because they view this as the right thing to do, thereby enhancing their reputations. On the other hand, older children and younger children may differ in their in-group and out-group giving behavior. Adult literature suggests that, out-group giving is more motivated by the desire for favorable impression management than in-group giving (Levine, Prosser, Evans, & Reicher, 2005). Older children may have similar beliefs to adults and give more to out-group members than in-group members in the observer condition. If this is the case, we anticipate children's out-group sharing to change as a function of being observed. Furthermore, it is possible that older children, but not younger children, perceive sharing that occurs in public to be less commendable than sharing that occurs in private. The prosociality literature indicates that adults view private donations as more "altruistic" and less "egoist" than public donations (Padilla-Walker & Carlo, 2014). However, we do not know if children as old as 9-years-old have adult-like cognitions about out-group sharing that occurs in private versus public. If older children differ from younger children in their beliefs about in/out-group sharing and private versus public giving, then we expect their patterns of sharing to also diverge from the sharing behaviors of younger children.

We also included an evaluation task to test children's perceptions of giving. After completing the sharing task, children were asked to judge scenarios of sticker sharing between in-group and out-group members. This was to test whether (a) children act in accordance with what they believe to be "nice" giving behavior, and (b) if children believe it is nicer to share with out-group or in-group members when sharing takes place publicly vs. privately.

Past studies demonstrate a tension between children's desire for equal outcomes and their preferences for in-group loyalty when distributing resources. However, few studies have examined how this tension influences children's beliefs about how others should behave in cooperative contexts. Olson and Spelke (2008) found that when children acted on behalf of a third-party protagonist (a doll) they prioritized the doll's in-group members when allocating resources. More recently, DeJesus, Rhodes and Kinzler (2014) found that 4- to 10-year-old children expected others to behave in ways that would benefit their own group. Thus

children's evaluations about the way people *should* behave are often not congruent with how they expect them to actually behave. What has not yet been examined is whether children's evaluations about how others should allocate resources amongst in-group and out-group members mirror their *own* behavior in a parallel task. Additionally, we know little about the degree to which children consider social obligations when evaluating the amount of resources shared between individuals. Previous studies have found that children rate scenarios of sharing zero resources as a "mean" act, especially if resources were earned collaboratively (Ng, Heyman & Barner, 2011). This demonstrates that children consider social obligations between individuals when evaluating sharing behaviors, but we do not know if this extends to their beliefs about intergroup sharing.

## Method

**Participants** A total of 164 children (82 females) were tested, with 84 children in the observer condition and 80 in the no observer condition. Children's ages ranged from 5 to 9 years with 33 five-year-olds, 32 six-year-olds, 35 seven-year-olds, 32 eight-year-olds and 32 nine-year-olds; 82% were Caucasian, 15% were Asian American, 3% were identified as Mixed/Other by caregivers.

**Procedures** Children first completed a resource allocation task and then took part in a social evaluation task in which they evaluated the resource allocation decisions of other children. Children randomly selected a green or orange block hidden behind the experimenter's back to assign them to one of two minimal groups (the orange or green group). Blocks were surreptitiously manipulated to ensure that an equal number of children from each age group were assigned to each minimal group. Children were told that their group included other children in the area who chose the same color block that they did. They then wore a wristband matching the color of their group for the duration of the task. Next, each participant heard four narratives describing a competitive relationship between the two groups (e.g., "The orange group *really* wants to win against the green group, and the green group *really* wants to win against the orange group"). The narratives emphasized competition between the groups without mention of rivalry over resources in order to prevent children from viewing the resource allocation task itself as a competitive task.

**Resource allocation task:** Stimuli for the resource allocation task were six full-color head and shoulder photographs of Caucasian females between the ages of 5 and 7 attached to manila envelopes. We chose all female recipients to control for gender as an extraneous variable in children's in-group/out-group sharing behavior. Photographs were taken from Dunham et al. (2011) and were edited using a photo editing software such that half the children wore orange t-shirts and half wore green t-shirts.

On each trial children were presented with a manila envelope with a picture of a child from the contrasting

group (three trials) or their same group (three trials). Each time a picture of a target child was presented, the experimenter placed seven stickers on the table in a random arrangement. Children were told that the stickers belonged to them and they could distribute the stickers in any way that they liked. They were led to believe that the envelopes would later be mailed to each target child's house, and were told that the experimenter would not look inside of the envelopes. Children put the stickers that they wanted to donate inside the envelopes with the target child's picture on it, and put stickers that they wanted to keep in a separate envelope. Children completed seven trials in total including one practice trial. For counterbalancing purposes, there were two different orders for the presentation of target pictures where one order was the reverse of the other. The in-group or out-group status of the potential recipient was manipulated within subjects, and the presence or absence of an observer during the session was manipulated between subjects.

For both conditions (observer and no observer), the experimenter placed a display poster board between herself and the participant so that the experimenter's view of the participant was obstructed. In the observer condition, a research assistant sat next to the child and maintained a neutral expression while watching the child complete the resource allocation trials. Children were told that the observer cared about how nice they were during the task, and was watching to see how many stickers they gave away.

**Evaluation task:** Children were told that they would see images of how other children played a sticker game similar to the one they just took part in—except now, they would decide if the children in the pictures were being "nice" or "mean" when they played the game. Examples of a child performing a nice act (cleaning up the classroom) and performing a mean act (pushing another child down on purpose) were read to each participant prior to playing the game. Children answered whether the actions were "nice" or "mean" to ensure that they understood the meaning of each term.

Next, children saw eight PowerPoint slides with pictures of two children (a giver and a recipient) on each slide. The slides depicted scenarios of sticker sharing between in-group and out-group members in the presence or absence of a female observer. The in-group versus out-group status of the potential recipient was manipulated within subjects and whether or not an observer was shown was manipulated between subjects. Children were assigned to the same observer condition in the judgment task as they had been in the resource allocation task.

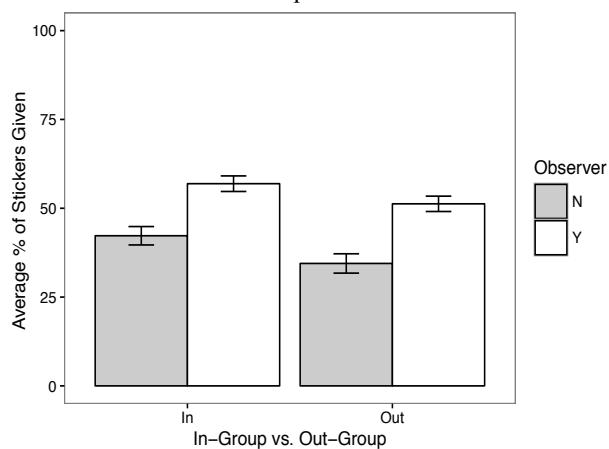
At the start of each trial, children were told which child donated their stickers and which child was the recipient. Target children in the evaluation task were 16 Caucasian females between the ages of 5 to 7. Four scenarios consisted of giving stickers to the out-group, where the ratios between giving and keeping were 7:0, 5:2, 2:5, 0:7, and four matching scenarios consisted of in-group giving. Two different orders for the presentation of PowerPoint slides

were used, where one order was the reverse of the other. For each trial, children judged whether the giver was nice or mean. They were then asked either “How nice?” or “How mean?” and presented with three smiling or frowning faces, respectively. A six-point pictorial Likert scale adopted from Ng, Heyman and Barner (2011) was transformed into values: 6 (very very nice) to 1 (very very mean) for data analysis.

## Results

**Resource Allocation task:** Analyses were performed in R 3.0.2 (<http://www.r-project.org>) using the lme4 package (Bates, Maechler, Bolker & Walker, 2014). For the resource allocation task we used a linear mixed model with Participants treated as a random factor. P-values were obtained by comparing likelihood ratio tests of the full model with the effect in question against the basic model without the effect in question. The basic model included Age and Gender as predictor variables, and mean percentage of stickers donated by children as the dependent variable. The full model included Age, Observer Condition (Observer, No Observer), recipient’s Group Status (In-group, Out-group), and the interaction between Observer and Group Status (Observer/No Observer x In-Group/Out-Group) as predictor variables.

The analyses revealed that adding Observer Condition and Group Status to the model significantly increased the goodness of fit as indicated by likelihood ratio tests,  $\chi^2(1) = 26.55, p < .001$ . Welch’s two sample t-test indicated that children in the Observer Condition donated significantly more stickers ( $M = 54\%$ ), than children in the No Observer Condition ( $M = 38\%$ ),  $t(944) = -9.57, p < .001$ . A paired samples t-test showed that children donated significantly more stickers to In-group members ( $M = 49\%$ ) than to Out-group members ( $M = 43\%$ ),  $t(163) = 5.03, p < .001$ . **Figure 1** displays children’s average percentage of giving by Observer Condition and Group Status.



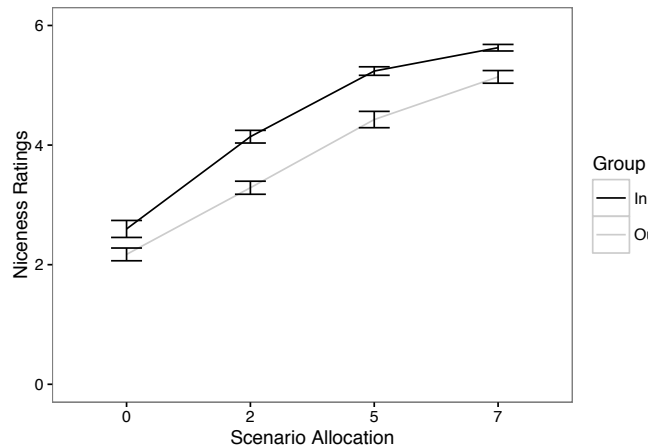
**Figure 1:** Percentage of stickers given by observer condition (Observer, No Observer) and group status (In-group, Out-group).

We did not find significant effects of Age or Gender in either of the analyses, nor did adding the interaction between Observer and Group Status improve the goodness of fit of our model. The difference between the Observer versus No-observer condition was slightly greater for out-group giving than for in-group giving, but this was not statistically significant.

**Evaluation task:** Multiple regression analysis was used to test if factors in the evaluation task, as well as children’s own giving behavior in the resource allocation task, predicted children’s explicit “niceness” ratings (1= very very mean...6= very very nice). For each participant, an average score of In-group/Out-group giving (referred to here as In-group sharing bias) was calculated by subtracting the mean number of stickers donated to Out-group members from the mean number of stickers donated to In-group members in the resource allocation task.

Data for the evaluation task were analyzed using a linear mixed model with Participants treated as a random factor. Correlation tests run prior to creating regression models revealed low collinearity among predictor variables. P-values were obtained by comparing likelihood ratio tests of the full model with the effect in question against the basic model without the effect in question. The basic model included Age and Gender as predictor variables and participants’ mean “niceness” ratings as the outcome variable. A second model (Model 2) included Age, Gender, Observer Condition (Observer, No Observer) and the interaction between scenario allocation (7:0, 5:2, 2:5, 0:7) and inter-group sharing between target children (In-group, Out-group) as predictor variables. The full model included all predictor and outcome variables of Model 2, in addition to the interaction between participants’ In-group sharing bias in the resource allocation task and inter-group sharing between target children in the evaluation task.

The analyses revealed that the full model accounted for significantly more variance in children’s “niceness” ratings, than the basic model and Model 2,  $\chi^2(1) = 7.07, p = .029$ . The increased goodness of fit of the full model compared to Model 2 demonstrates a significant relationship between children’s own giving behavior and their judgments of other children’s intergroup giving. Children’s ratings of different scenario allocations were dependent on the inter-group sharing that occurred. Children gave significantly different ratings for Out-group sharing scenarios where the giver shared 0 stickers ( $\beta = 4.08$ ) versus 2 stickers ( $\beta = 3.64$ ), 5 stickers ( $\beta = 3.68$ ) and 7 stickers ( $\beta = 4.01$ ). Children rated giving 0 stickers as meaner ( $M = 2.49$ ) than giving any stickers: 2 stickers ( $M = 3.79$ ), 5 stickers ( $M = 4.77$ ), or 7 stickers ( $M = 5.29$ ). Also, to our surprise, we found a significant main effect of group sharing such that children rated giving to Out-group members as significantly meaner ( $M = 3.77$ ) than giving to In-group members ( $M = 4.39$ ),  $F(1,785) = 40.48, p < .001$  (see **Figure 2**). Additionally, Observer condition was a significant predictor of children’s “niceness” ratings ( $\beta = 3.94$ ), but age and gender were not.



**Figure 2:** “Niceness ratings” (6 = very very nice, 1 = very very mean) by scenario allocation and inter-group sharing between target children (In-group, Out-group).

### Discussion

We investigated how children's giving to others is affected by their desire to maintain a good reputation, and how this interacts with their relationship to potential recipients. We also examined whether children's evaluations of giving are reflective of their own sharing behavior, or if instead children judge other children negatively for exhibiting behaviors that they themselves perform.

Consistent with previous studies (Engelmann, Herrmann & Tomasello, 2012; Shaw et al., 2104), we found that children were significantly more generous when an observer was present. We also found that children donated more stickers to in-group members than out-group members across both observer conditions. However, surprisingly, children's giving to in-group and out-group members did not significantly differ between observer conditions: Children's giving to in-group members was just as influenced by reputation management as giving to out-group members, in contrast with our expectation that they might share for alternative reasons with in-group members—e.g., a desire to strengthen their group, or a heightened expectation of reciprocity (Bernhard, Fischbacher & Fehr, 2006; Sebastián-Enesco & Warneken, 2015).

Also surprising were children's explicit evaluations of giving behavior, and how they related to their own giving. Overall, children's own sharing behavior in the sticker allocation task predicted their “niceness” evaluations. While at first analysis this does not appear surprising, one consequence of this is that they rated scenarios of in-group giving as significantly nicer than scenarios of out-group giving. These findings contrast with DeJesus et al.'s (2014) study, which found that children evaluate out-group giving as nicer than in-group giving. In our study children did not rate giving 0 stickers differently for in-group or out-group giving, but they did rate giving all 7 stickers to an in-group member as significantly nicer than giving all 7 stickers to an out-group member. We see two potential reasons for this

difference in findings. First, it is possible that children are more sensitive to group status in contexts where one must sacrifice all of his/her resources—e.g., that they are more likely to consider social obligations in scenarios where sharing incurs a high cost. Alternatively, children's evaluations of giving to in-group or out-group members may differ when they have themselves recently given, and themselves chosen to favor the in-group.

Future studies should examine this difference, and also the unexpected finding that children do not use different metrics for sharing with in-group and out-group members. Our intuition, beginning this study, was that in many cases, such as feeding one's family or providing clothing and shelter, reputation management is likely to be a secondary factor in giving behaviors. From this intuition, we reasoned that sharing might differ more generally between in-group and out-group members. While this second prediction appears to be incorrect, it remains unknown whether children's motives for giving to close relations might still be less sensitive to concerns about reputation, or whether here too, children give less when others are watching.

Future work should also examine why children seek to appear prosocial to a stranger. For example, it is unclear whether children were more generous in front of observers because they cared about their reputation or because they anticipated that their behavior could have resulted in a reward or punishment.

Also of interest is how suboptimal environmental conditions such as social instability and resource scarcity, which make sharing more costly for children, constrain their sharing behavior. Research in adults indicates that when faced with uncertainty of resource availability, individuals become less cooperative, especially across group boundaries (LeVine & Campbell, 1972). However, much remains unknown about how such factors across diverse societies impact children's sharing behaviors. Our sample consisted of predominantly Caucasian children of high socioeconomic status living in a wealthy, urban community in the U.S. where resources are abundant and competition over scarce resources is minimal. This makes it unclear how well our findings generalize to children with different socioeconomic and ethnic backgrounds. How might children living in diverse areas of the U.S. or other countries compare to the children we tested? It is possible that with varying cultural and social norms regarding altruistic giving, we will find great variability in children's sharing tendencies. Future research in this area is needed to explore how cultural and socioeconomic differences may influence developmental trajectories of prosocial behavior.

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