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"Wealth Makes Many Friends": Children Expect More Giving From Resource-Rich Than Resource-Poor Individuals

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Young children show social preferences for resource-rich individuals, although few studies have explored the causes underlying such preferences. We evaluate the viability of one candidate cause: Children believe that resource wealth relates to behavior, such that they expect the resource rich to be more likely to materially benefit others (including themselves) than the resource poor. In Studies 1 and 2 (ages 4–10), American children from predominantly middle-income families (n = 94) and Indian children from lower income families (n = 30) predicted that the resource rich would be likelier to share with others than the resource poor. In Study 3, American children (n = 66) made similar predictions in an incentivized decision-making task. The possibility that children's expectations regarding giving contribute to prowealth preferences is discussed.

> Wealth maketh many friends; but the poor is separated from his neighbor.
>
> —Proverbs, 19:4 (*The Holy Bible*, King James Version).

> Bounteous is he who gives unto the beggar who comes to him in want of food . . . He makes a friend of him in future troubles.
>
> Mandala 10, Hymn 117 (*The Rigveda*).

The notion that wealthy people are desirable social partners is as old as many classic religious texts. For example, according to the Book of Proverbs, wealth attracts friends and poverty does the opposite. The Book of Proverbs also suggests a reason for this phenomenon: "Many will entreat the favor of the prince, and every man is a friend to him that giveth gifts" (19:6). In other words, people seek the friendship of the wealthy, who have the material capacity to give to others. Such dynamics are neither limited to biblical times nor to adults. Children also hold social preferences favoring resource-rich people, although the reasons for their preferences have remained unclear. Here we explore the possibility that children prefer the resource rich because they expect them to be more likely to share than the resource poor.

Children's Social Preferences for the Resource Rich

Children as young as preschoolers show social preferences favoring resource-rich individuals. In many recent studies, such preferences have been evoked through forced-choice judgments between two individuals who differ in the quality or quantity of their resources (Dunham, Newheiser, Hoosain, Merrill, & Olson, 2014; Horwitz, Shutts, & Olson, 2014; Li, Spitzer, & Olson, 2014; McCrink, Bloom, & Santos, 2010; Shutts, Brey, Dornbusch, Slywotzky, & Olson, 2016), even in the absence of explicit "rich" or "poor" labels (for judgments when such labels are used, see Roussos & Dunham, 2016; Sigelman, 2012). When asked questions such as which individuals are "nicer" (e.g., Li et al., 2014), which individuals they would rather befriend (e.g.,

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Shutts et al., 2016), or which groups or individuals they like better (e.g., Horwitz et al., 2014), children as young as 4 and 5 favor the materially advantaged. Such "prowealth" preferences are evoked whether the resource wealth is conveyed through the quality and quantity of enduring symbols of wealth, such as houses, cars, furniture, and electronics (e.g., Horwitz et al., 2014), quality of child-friendly "status symbols" such as shoes and backpacks (e.g., Shutts et al., 2016), or quantity of child-friendly objects such as tokens or jars of play-dough (e.g., Li et al., 2014). This research suggests that, even before children enter elementary school, they use others' possessions as cues to who is a desirable social partner. Thus, as argued by Shutts et al. (2016), along with tremendous structural barriers, lower income children may also encounter social barriers due to their wealth status. Determining why children prefer the resource rich may clarify the circumstances under which such biases are likely to be evoked and provide answers to how such biases can be mitigated.

What are the causes and implications of such preferences? Children show strong similarity-based preferences (Banaji, Baron, Dunham, & Olson, 2008; Fawcett & Markson, 2010); given the affluence of many developmental study samples, might prowealth preferences simply be another kind of similarity preference? Shutts et al. (2016) found that American children from low-income backgrounds show robust prowealth preferences, and Dunham et al. (2014), in a racially diverse sample of low-income South African children, found that the most economically disadvantaged children showed even greater prowealth preferences than children from slightly higher income families. Thus, wealth preferences are neither a subtype of similarity or in-group-favoring preferences nor limited to affluent, majority-White, American samples.

Favorable beliefs about the nature of wealthy people and the traits that may have led to their wealth also seem like plausible causes of prowealth social preferences. Older elementary school-age children possess fairly coherent causal beliefs and content-laden stereotypes about the rich and the poor that extend beyond broader evaluative attitudes (i.e., positivity or negativity) regarding such groups (Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015; Sigelman, 2012). However, younger children lack an understanding of how people come to differ in their wealth, how money works, and the connections between wealth, work, and merit (Danziger, 1958; Enesco & Navarro, 2003; Ramsey, 1991; Sigelman, 2013; Stendler, 1949). Preschoolers may tell you that poor people "forgot to go to the store to get their money" (Ramsey, 1991, pp. 79) or that one can attain wealth by finding treasure (Danziger, 1958; Enesco & Navarro, 2003). In fact, Leahy (1983) found that asking others for money was 6-year-olds' most commonly mentioned method for both how a poor person could become rich and how they themselves could become rich in the future. Whereas older children often mention trait-like distinctions when defining the rich and the poor, preschool-age children rarely do so (Leahy, 1981; see also Mistry et al., 2016): They favor possessions over dispositions when describing such groups, suggesting that material possessions are more salient than stereotype-driven traits in young children's mental representations of socioeconomic groups. Moreover, preferences for resource-rich people are evoked even through contrasts as subtle as who owns 5 versus 4 jars of play-dough (Li et al., 2014). Even if young children do have access to detailed stereotypes about the rich and poor, such a close contrast seems unlikely to evoke them, leading us to conclude that stereotypes are unlikely to be the basis of the prowealth social preferences that do emerge in such cases.

Thus, many factors that could plausibly explain prowealth preferences in older children and adults are unlikely to explain such preferences in young children, suggesting a need to consider other candidate causes. Here, we will attempt to encourage further exploration into the causes and implications of children's wealth preferences by proposing two mutually exclusive explanations for why young children, who seem to lack genuine, content-laden, wealth-based stereotypes, may nonetheless show such preferences.

Explanation #1: Object-Based Preferences

In this view, children's preferences for the resource rich reflect preferences for objects rather than people and thus are not truly "social." Children do not expect the resource rich and the resource poor to behave differently; they do not expect resource wealth to influence behavior. In the previous studies investigating children's wealth preferences, photographs of children were often depicted along with photographs of their possessions; perhaps participants focused on the objects in question without making inferences about their owners. Imagine, for instance, that participants were asked whether a smaller or larger (i.e., "richer") set of objects was "nicer" instead of whether their owners were "nicer." As children would likely favor the "richer" objects, preferring

to have more rather than less, it is difficult to determine whether children's preferences for individuals with more can be construed as preferences for more objects or preferences for people who own more objects. If this explanation is true, when favoring individuals with more possessions, children are actually indicating preferences for the *possessions* rather than their *owners*. Children may think high-quality houses, or more toys, are "nice" but do not expect their owners to behave differently than those who are materially disadvantaged. This explanation would posit that children will not make behavioral predictions about others based on information about their resource wealth (although children may still assign positive adjectives to the resource wealthy, especially adjectives, like "nice," which are equally suitable for objects and people). If true, children prefer the material possessions of the resource rich but have no strong beliefs about their owners.

Explanation #2: Behavior-Based Preferences

In this view, children's social preferences for the resource rich reflect expectations regarding how resource-rich people are likely to behave. Children *do* expect the resource rich and the resource poor to behave differently; they expect resource wealth to influence behavior or serve as a signal to underlying dispositions. Such expectations could be "narrow" and targeted to behaviors involving the distribution of resources. For instance, children may understand how abundance and need influence the costliness of giving and expect the resource rich to be more likely to give to others than the resource poor. If true, children do not only *like* resource-rich people's possessions, but they also *expect to benefit* from their abundance and thus may view the resource rich as valuable social allies. It is also possible that children hold "broad," domain-general expectations that the resource rich will behave positively in a variety of ways, in addition to being more likely to share. Such expectations could emerge even in the absence of content-laden stereotypes regarding the rich and poor via phenomena such as affective tagging (attitudes toward objects or events associated with individuals carry over to judgments of the individuals themselves; see Li et al., 2014; Olson, Dunham, Dweck, Spelke, & Banaji, 2008) or belief in a just world (individuals' current state of advantage or disadvantage is viewed as stemming from their past positive or negative actions; see Lerner, 1971). In the narrowest version of the "behavior-based preferences" explanation, children prefer the resource rich due to beliefs regarding their likelihood of sharing. In the broadest version of this explanation, objects merely serve as cues to the goodness of individuals, and it is the individuals themselves, not their objects, that are driving social preferences.

Overview of Studies

The guiding theme of our empirical investigations is the realm of material possessions and how they are distributed. Quite literally, material goods are central to the concept of "wealth," and particularly so for young children (Leahy, 1981). We believe that an investigation of children's behavioral predictions on the basis of resource wealth should begin with the domain of behaviors that bears the closest connection to the possession of resources. Our approach here is targeted rather than comprehensive; we hope that our initial investigations may provide a basis for exploring additional explanations for children's prowealth preferences.

We examined whether children expect the resource rich to behave differently from the resource poor. Specifically, do children expect the resource rich to be more likely to share? To our knowledge, this claim has never been tested. However, numerous lines of evidence suggest that young children possess the requisite concepts for such an expectation. Young children use quantitative reasoning and attend to abundance and need when enacting resource distributions and evaluating others' distributions. They preferentially allocate resources to individuals with less over individuals with more (Li et al., 2014; Malti et al., 2016; Paulus, 2014; Zinser & Lydiatt, 1976). When judging "niceness," they attend to the absolute amount given, viewing larger donations as "nicer," and also show sensitivity to the proportion given relative to the total quantity possessed by the giver, at least when not in conflict with the absolute amount given (McCrink et al., 2010; see also Ng, Heyman, & Barner, 2011). They also may view those with more as having a greater duty or ability to share than those with less. Paulus, Gillis, Li, and Moore (2013) found that 5-year-old children, when given a modest amount of resources, often requested that a resource-rich third party share with another individual who had none. When the participants were instead given an abundance of resources, they often shared with the disadvantaged individual rather than invoking the aid of a modestly advantaged third party. Thus, we have evidence that children use quantitative information when deciding who should give or be given

resources and judging the kindness of others' giving, but whether they use quantitative information to determine the *likelihood* that someone will give is an open question.

Our core studies test our prediction that children expect individuals with more toys to be more likely to give away a toy to another individual than individuals with fewer toys. In Study 1, we test this prediction with children from predominantly middle-income families in the Northeastern United States. In Study 2, we test this prediction with lower income, urban children in India, to determine whether such expectations are found in children from diverse cultural and socioeconomic groups. In Study 3, we test this prediction in a "real-world" behavioral measure in which the participating children are incentivized to produce the "right" answer. In short, Studies 2 and 3 address whether children's expectations about giving, as documented in Study 1, are specific to the culture and experimental context of our American sample or may be more generalizable, perhaps extending to a diversity of cultures and situations.

If, as we predict, children expect the resource rich to be likelier to share than the resource poor, solely "object-based preferences" become unlikely and "behavior-based preferences" would be supported instead, as children will be shown to use information about resource wealth to make behavioral predictions (i.e., children do not merely prefer the resource rich's objects but expect quantity of objects to influence how individuals behave). Our predicted quantitative pattern of results would not distinguish between "narrower" (i.e., materially focused) and "broader" versions of behavior-based preferences, as both accounts would predict favoring the resource rich as givers. However, such distinctions may be revealed through participants' explanations for why they chose a resource-rich or resource-poor child as the giver; a "narrower" account would posit that explanations emphasize the resource-rich child's superior material capacity as a reason for giving rather than personality traits such as kindness.

Conversely, children may not view wealth as influencing giving behavior or may view individuals with more wealth as greedy and therefore unlikely to give to others. Relatedly, perhaps children view those with less as having fewer resources because they gave to others in the past and are thus likely to give to others in the future. If any of these alternatives are true, children may have ambivalent or even negative predictions about the behavior of those who have more and stronger support would be provided for "object-based preferences," that is, the resource rich are favored solely due to perceived advantages in their possessions rather than behaviors.

Pilot Study 1

To test whether our stimuli would replicate previous findings of young children's social preferences for resource-rich individuals, we conducted a pilot study before beginning data collection on our core research questions. We will briefly summarize our findings here; additional data are reported in Appendix 1. After a warm-up task (see Appendix 2), 4-, 5-, 7-, and 8-year-old participants completed three trials of a social preferences task. Each trial featured a unique pair of children's faces (described in Study 1). In each pair, each child was shown above pictures of either 3 or 8 identical toys. We told participants how many toys each child had while gesturing to the pictures of their faces and toys and asked, "Which kid would you like to be friends with?" We predicted that younger participants would replicate patterns of strong social preferences favoring resource-rich individuals in preschool-age children, and older participants would show weaker preferences, as the expression of explicit favoritism tends to decline across childhood (e.g., in domains such as race and ethnicity; Banaji et al., 2008).

Each participant took part in only one of the studies reported in this article. Our sample consisted of twenty-six 4- to 5-year-olds and twenty-four 7- to 8-year-olds. For each trial, participants were given a 0 if they chose the 3-toy child as their preferred friend and a 1 if they chose the 8-toy child as their preferred friend. Total scores could range from 0 to 3. One-sample t tests comparing each age group's mean scores to the at-chance score of 1.50 showed that 7- to 8-year-olds' scores were not significantly greater than chance, $M = 1.79$, $SD = 0.88$, $t(23) = 1.62$, $p = .12$, $d = 0.330$. Of key importance to our subsequent studies, 4- to 5-year-olds chose the 8-toy child significantly more often than would be expected by chance, $M = 2.23$, $SD = 0.71$, $t(25) = 5.25$, $p < .001$, $d = 1.029$, and the younger age group chose the 8-toy child marginally more often than the older age group, $t(48) = 1.94$, $p = .06$, $d = 0.548$. Thus, we replicated previous findings of social preferences for the resource rich in preschool-age children using our stimulus materials.

In Study 1, we turn to testing children's expectations regarding giving behaviors. We included 4- to 5-year-olds because this age group showed robust preferences for the resource rich in other studies (e.g., Li et al., 2014) as well as in our own pilot study, which used similar stimulus materials to those we planned to use in Study 1. We also included an older age group of 7- to 8-year-olds. Although children of this age have shown social preferences favoring the resource rich in other studies (e.g., Dunham et al., 2014; Shutts et al., 2016), their preferences fell short of statistical significance in our pilot study. We suspect that aspects of our procedure reduced the likelihood that older children would manifest overt prowealth preferences. We nonetheless thought it important to test whether children of this age would expect giving from such individuals, a judgment that could be distinct from preferences. (We will return to the issue of why older children did not show overt prowealth preferences, and whether preferences are dissociable from giving expectations, in the General Discussion.) The inclusion of older children also allowed us to compare expectations regarding giving across a broader age range.

Study 1

Study 1 tested whether children are sensitive to considerations of abundance and scarcity when determining who is likely to share resources with others. We told participants about pairs of children who greatly value a kind of toy and possess different amounts of toys of that kind. Then, we asked participants to predict who in each pair would give one toy away to a friend and who would keep all their toys instead of giving one away. We predicted that both age groups would be likelier to choose the child with more toys as the giver than the child with fewer toys.

Method

Participants

Our final sample consisted of forty-seven 4- to 5-year-olds (25 girls; $M = 61.17$ months, $SD = 6.24$, range = 49–71; we calculated participants' ages in months but not exact days) and forty-seven 7- to 8-year-olds (25 girls; $M = 95.04$, $SD = 6.14$, range = 84–107). Participants were tested in our laboratory ($n = 17$), museums ($n = 20$), private or parochial schools ($n = 43$), and public schools ($n = 14$) in New England or the Mid-Atlantic, with a total of seven research sites. Sixty-five participants were White, 12 were Asian American, 3 were Black, 3 were Latino, 3 were biracial, and 2 were Native American. Information about race was unavailable for six participants. We did not collect information about family income, but given the demographic profiles of our data collection sites, we believe most children came from middle-income families for all studies with American children reported here. Data collection took place in the spring and summer of 2015. In accordance with institutional review board regulations, all participants had parental consent to participate and gave their personal assent. Sixteen additional participants (of 110 total participants tested) were excluded due to experimenter error ($n = 1$), limited English proficiency ($n = 1$), and comprehension check failures (warm-up task: $n = 3$, card task: $n = 11$). For all studies reported here, experiments were conducted by White experimenters (either the first author, who collected data on all studies reported here, or extensively trained female and male research assistants).

Materials and Procedure

An Apple iPad and the Qualtrics Offline iPad app were used for stimulus presentation and data collection. As extra checks, we also live-coded participants' responses and made video recordings of participants whose parents gave their permission. Complete versions of the study scripts are included in S1. Each testing session began with a warm-up task and then a card training task, both described in Appendix 2. The card training task introduced children to cards used to indicate "giving" (an open palm) and "keeping" (a closed fist) and tested for their comprehension of the cards. Children then used the cards to indicate their decisions during the main study.

Participants completed three trials of the *giving and keeping game*, which constituted the core dependent measures of the study. In each trial, participants were shown a new pair of children possessing different amounts of toys. The pairs were randomly selected from a total set of eight pairs (four male pairs and four female pairs). In each pair of faces, both children were of the same sex, matched in general physical appearance, within 6 months apart in chronological age, and shown above different numbers of toys of the same type and appearance. All children were smiling, White, and photographed by a professional photographer (LoBue & Thrasher, 2015). We used exclusively

White faces because even young children of diverse ethnic backgrounds generally expect White individuals to be wealthier (Dunham et al., 2014; Shutts et al., 2016), and White children expect White individuals to be more likely to give to them than Black individuals (Renno & Shutts, 2015). By using exclusively White faces with our majority White sample, we reduced the possibility that children would attend to racial features when predicting giving (e.g., choosing the "Whitest looking" of two non-White faces as the giver). Eight different toy types were used, with each type corresponding to a unique pair of faces. For example, for the "teddy bear" pair (which will be discussed throughout this section), one girl was shown above three teddy bears and the other above eight teddy bears. Whether each face appeared on the left or right side of the screen and with three or eight toys was randomized for each participant, yielding a total number of four versions for a given face pair. Contrasts between three versus eight toys were always used. A sample stimulus item is shown in Figure 1. Participants were told that ". . . both children really like teddy bears. They like [them] equally and teddy bears are their favorite things to play with." The experimenter then gestured to who had "3" or "8 teddy bears at home this morning" and asked participants to repeat how many bears each child had. We chose to convey resource wealth through contrasts of quantity on the reasoning that such contrasts should be clear even to preschoolers.

Next, participants were told, "tonight, both kids are having friends over at their houses . . . one kid will give away a teddy bear to her friend . . . and

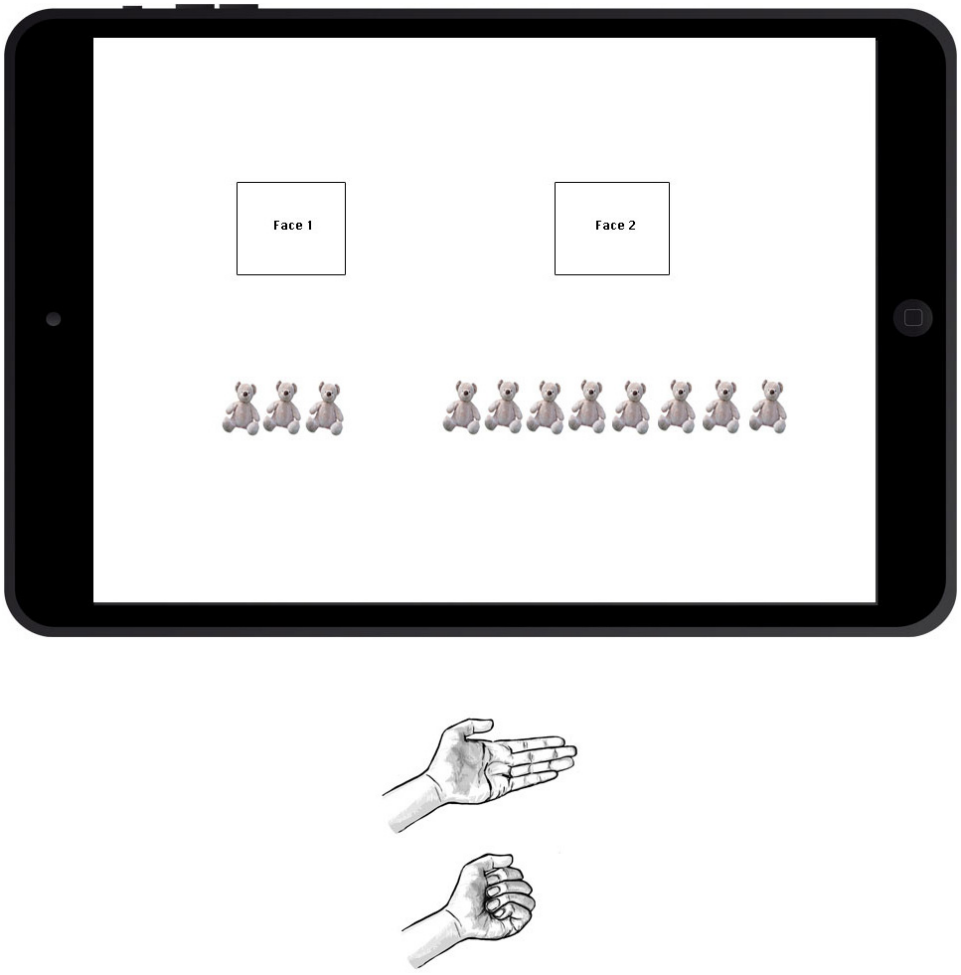

Figure 1. Schematic illustration of a sample Study 1 stimulus item. Here, the "giving card" is shown on top of the "keeping card." Empty squares are displayed here instead of color photographs of children's faces, which were shown to participants, and the toy photographs have been slightly modified slightly from the originals due to usage restrictions.

[the other] will keep all her teddy bears instead of giving." We explained the giving and keeping events as taking place in the future (i.e., "tonight") for the sake of clarity; it was important that participants viewed the number of toys shown as indicating what the characters possessed before (i.e., "this morning") they decided to give or keep, as opposed to afterward. Participants were then instructed to use the cards to indicate what each child will do. Participants understood the decisions as mutually exclusive and did not attempt to assign two cards to the same child or the same card to both children.

The procedure was then repeated twice, each with new sets of face pairs and toys. After the third and final trial, participants were asked to explain why they chose the way they did on their most recent trial. We only asked for explanations after participants' final response because the process of generating explanations may cause children to reason differently and thus could influence subsequent performance (Walker, Lombrozo, Legare, & Gopnik, 2014).

Results

For each trial, participants were given a 0 if they chose the 3-toy child as the giver (this also meant choosing the 8-toy child as the keeper) and a 1 if they chose the 8-toy child as the giver. For the sake of simplicity, we will refer to responses in terms of the giver exclusively. Total giving scores could range from 0 to 3, with a three consistent with a belief that those with more are likelier to give. We conducted one-sample t tests for each age group, comparing means to the at-chance score of 1.50, to assess whether participants preferentially selected the 8-toy child as the giver. As shown in Figure 2, 4- to 5-year-olds, $t(46) = 5.88$, $p < .001$, $d = 0.857$, and 7- to 8-year-olds, $t(46) = 7.36$, $p < .001$, $d = 1.074$, chose the 8-toy child as the giver significantly more often than would be expected by chance. Complementary nonparametric analyses are shown in Appendix 1. A two-way analysis of variance, with giving score as the dependent measure and age group (younger and older) and gender as the between-subjects factors, found no significant main effects for age or gender and no significant Age × Gender interaction (all $ps \geq .48$). We found similar results across locations; of our five sites with at least 10 participants tested per site, mean scores ranged from 2.31 ($SD = 0.93$) to 2.50 ($SD = 0.85$).

Participants' explanations of their final choice were transcribed and then coded. Nine categories, most of which were not mutually exclusive, were used to code participants' explanations, with the presence or absence of each code noted. Each session received at least one code. The results here are based on the coding of a single coder who also devised the coding system after reviewing the transcriptions and consulting with the first author. A second coder independently coded 34% of sessions, excluding *no response* sessions ($n = 8$), and achieved

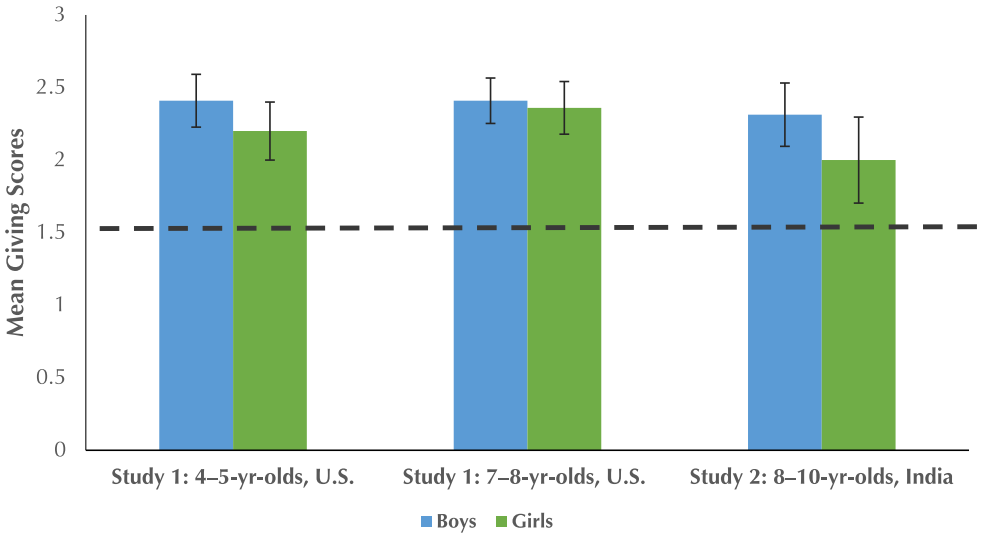

Figure 2. Mean *giving and keeping game* scores in Studies 1 and 2. Total scores could range from 0 to 3, with a score of 1.5 (shown with a dotted line) indicating at-chance performance. American 4- to 5-year-olds, American 7- to 8-year-olds, and Indian 8- to 10-year-olds all had scores significantly higher than the at-chance score of 1.5. Error bars indicate 1 *SEM* in either direction.

85.7% agreement (total number of agreements/total number of codes used). Disagreement in the type of codes as well as the total number of codes counted against the agreement score. For example, if, for a given session, both coders agreed on one code but one coder used an additional code, there would be one agreement and two total codes used, yielding a reliability score of 50%.

Coding results are displayed in Table 1 and key findings are discussed here. Additional information is included in S2. The 94 requests for explanations yielded 114 codes. Of these, 24 were used on trials in which the 3-toy child was chosen as the giver and 90 on trials in which the 8-toy child was chosen as the giver. By far, the most common code was *quantity*, used 68 times, and coded when participants referenced the absolute (e.g., "[she will keep] because she only has 3") or relative (e.g., "[he will give] because he has more Legos than the other one") quantity of the targets' toys. *Quantity* could be used to justify choosing the child with eight or three toys as the giver, although a chi-square test of independence revealed that *quantity* was used more often when explaining trials in which the 8-toy child, rather than the 3-toy child, was chosen as the giver, $\chi^2(1, N = 114) = 11.74$, $p = .001$. *Quantity* was used at similar rates for both age groups, $\chi^2(1, N = 114) = 1.89$, $p = .17$. *Excess/need* was used when participants referenced concepts of abundance and scarcity as influencing behavior, consistent with the belief that giving is less costly for individuals with more, for example, "because [the child with 3] has less bouncy balls, so she'll probably want to keep all of them, but [the child with 8] has a lot, so it wouldn't change anything if she just gave one to her friend." Such statements evoke the economic concept of diminishing marginal utility, which holds that as one acquires more goods, each unit matters less (Mullainathan & Shafir, 2013). Fisher's exact test revealed that *excess/need* was used more often for 7- to 8-year-olds than 4- to 5-year-olds, $p = .013$.

Table 1
Coding of Participants' Explanations for Studies 1 and 2

	Study 1: American 4- to 5-year-olds	Study 1: American 7- to 8-year-olds	Study 2: Indian 8- to 10-year-olds
Responses of children who chose 8-toy child as giver			
Quantity	28	33	18
Excess/need	1	11	2
Fairness	1	2	0
Intention	1	1	0
Personality	0	2	0
Liking of toys	0	0	0
Past behavior	0	1	0
Other	2	2	0
No response	4	1	2
Total	37	53	22
Responses of children who chose 3-toy child as giver			
Quantity	6	1	7
Excess/need	0	0	0
Fairness	0	0	0
Intention	4	2	0
Personality	1	0	0
Liking of toys	1	4	0
Past behavior	0	1	0
Other	1	0	2
No response	1	2	1
Total	14	10	10

Note. This table shows the number of codes in each category assigned to participants' explanations for their final-item choices, for each age group and study. Because a single explanation could be given more than one code, the total codes exceed the number of participants tested.

The infrequency of other codes was also notable. *Personality*, used when participants referenced perceived traits of the children in their explanation ("[he will give] because he looks nice in the picture"), was only used three times. *Past behavior*, used when a child inferred past behavior to predict giving, was only used twice. We thought some children might view a lack of toys as a sign of previous giving, but only one child explicitly referenced such a belief.

Discussion

Our participants robustly expected resource-rich children to behave differently from resource-poor children: They viewed the resource rich as likelier to share. Such expectations could be related to pro-wealth preferences, as social affiliations with the resource rich are viewed as more materially beneficial than social affiliations with the resource poor. To the extent that the resource poor are viewed as needing toys and the resource rich as being capable of sharing, some children could even view friendships with the resource poor as potentially costly. Relatedly, although children generally prefer to give to resource-poor individuals in experimental settings (Li et al., 2014), children's own resource distribution decisions and beliefs about others' giving are correlated, such that children preferentially give to individuals they deem likely to give to them (Dunham, Baron, & Carey, 2011; Renno & Shutts, 2015). Thus, a view of the resource rich as likelier givers could lead children to preferentially give to

resource-rich people under conditions in which future reciprocity is possible.

It is important to acknowledge that we did not measure children's social preferences in Study 1: We were concerned about study length as well as the consequences of posing questions regarding both social preferences and giving to the same participants. Any links between social preferences and expectations regarding giving are speculative, and we cannot conclude that prowealth preferences are caused by giving expectations. For instance, the direction of causality could be reversed, such that children's giving expectations emerge from broader "prowealth" positivity. If these were true, we would expect children to predict diverse positive behaviors from the resource wealthy, including those unrelated to the distribution of resources (e.g., cheering up a glum friend by telling a joke). We will return to this issue in the General Discussion.

We believe that Study 1 provides evidence that solely "object-based preferences" can be rejected as an explanation for children's prowealth preferences, because our participants used information about individuals' resource wealth to predict their behavior. Support is provided for "behavior-based preferences" instead. We have no clear-cut evidence to adjudicate between the narrower (children expect giving, but not necessarily other prosocial behaviors, from the resource rich) and broader (children expect the resource rich to perform general prosocial behaviors) versions of this explanation, as our study focused on expectations regarding resource distributions. However, the coding of children's explanations suggests that expectations about giving were driven by narrower material concerns rather than broader positivity toward the resource rich. It did not seem as though participants believed that the resource rich had more generous dispositions but rather that resource wealth produces generous behaviors. Most participants referenced resource quantity in their responses, but very few participants referenced personality traits or past behaviors of the target children, as could be predicted by theories of affective tagging or belief in a just world. It is worth reiterating that photographs of the target children were always shown along with their possessions and could have provided another basis for decision making, for example, choosing a child who "looks nicer" as the giver. However, quantity of items provided a stronger basis for decision making than physical appearance.

Children's explanations were generated post hoc, and children may not have introspective access to the true factors driving their decisions. Indeed, affective tagging may operate beyond conscious awareness and thus may have driven children's responses without their knowledge (Li et al., 2014). We are not claiming that affective tagging was completely inoperative in our study, or that affective tagging would not be elicited under other circumstances. However, in our specific study, children's explanations more strongly support the claim that children were straightforwardly and narrowly responding to the superior material capacity of the resource-rich children rather than broadly responding positively toward them.

Study 2

Our largely suburban, White, middle-income sample from the Northeastern United States possessed robust expectations that those with more are more likely to give to others. However, whether such expectations generalize to other populations is unclear. On one hand, such expectations may stem from basic, abstract quantitative reasoning concepts that may be common to most children, regardless of their specific culture, such as the concept of proportionality. Children of various degrees of affluence are also likely to have firsthand experience with the costliness of giving both under conditions of resource wealth and resource scarcity, such as sharing a snack when one has several pieces versus only a few. On the other hand, it is also possible that our pattern of results is specific to relatively well-off children, particularly those who rarely encounter poverty. Due to the prevalence of housing segregation in the United States, we believe that most children in Study 1 had minimal exposure to extreme contrasts in wealth (Lott, 2002). The expectation that those with more are more likely to give could be disrupted by witnessing examples of resource-rich individuals declining to share with the resource poor. Such examples are more likely to be encountered by children with routine exposure to extreme wealth contrasts, which heighten the salience of wealth differences and may cause children to believe that such differences are impervious to change (i.e., those with more will continue to have more, rather than sharing their wealth). It is also possible that other aspects of American culture, or Western, educated, industrialized, rich, and democratic cultures more broadly (Henrich, Heine, & Norenzayan, 2010), were responsible for our findings.

As an initial test of generalizability in a different cultural and socioeconomic context (see also Blake et al., 2015; Shaw & Olson, 2012), we replicated our

study with a sample of lower income, urban children from India. We chose this location due to India's status as a developing country, Indian children's exposure to extreme wealth contrasts (common to many children in developing countries), our familiarity with a specific Indian school as a research site, and the lower income profile of students at this school. Furthermore, India differs from the United States along many cultural dimensions, most notably religion and the caste system (see Srinivasan, Dunham, Hicks, & Barner, 2016), which could make socioeconomic divisions more salient. We did not view these aspects of Indian culture as highly relevant to our study, but they provide further contrasts with the United States and thus make for a stronger test of generalizability.

If our Study 1 results are attributable to specific features of our Study 1 sample, we would expect different results from our Indian sample. However, if children's expectations about giving are shaped by patterns of reasoning common to children of diverse cultural backgrounds and experiences with wealth contrasts, we would expect similar results in Study 2. Favoring the second possibility, we predicted similar results in our Indian sample. We tested 8- to 10-year-olds in India as a comparison to our 7- to 8-year-old Americans. Although our older American children did not show significant social preferences for resource-rich individuals, they did view resource-rich children as likelier givers. Our key question here was whether Indian children of a similar age would show similar expectations regarding others' giving; such a pattern would provide evidence that our findings extend beyond an American cultural context.

Method

Participants

Our final sample consisted of thirty 8- to 10-year-olds (14 girls; M = 111.93 months, SD = 5.83, range = 100–126) tested at an English language primary school in the city of Vadodara in Gujarat, India. All participants were South Asian. We do not have information about family income for each participant, but more than 80% of the school's students come from households earning under US$2,000 annually, or roughly $5.50 per day (see Srinivasan et al., 2016). The school is a charitable institution with a mission of serving less-privileged children. Although information about average household income is unavailable for the country of India (note that household income may reflect multiple earners), the gross national income per capita in India, that is, gross national income divided by total population, is US$1,590 (World Bank, 2015a; for the United States, it is US$54,960, World Bank, 2015b). We unfortunately lack directly comparable metrics regarding school-specific and statewide incomes. However, we can conclude that most students' households are in the lower half of income distribution relative to India as a whole and particularly relative to others in their state of Gujarat, which is one of India's wealthiest states (The Economist, 2015). Full tuition is approximately $120 per year; many students pay reduced tuition due to need, with charitable contributions covering the expenses of families who cannot afford this amount.

Approximately half of the students are Hindu and half are Muslim, with small numbers of students from other religious backgrounds. Students learn English through their school's immersion program, but none of our participants spoke English as their primary language (primary languages included Hindi, Gujarati, and Tamil). All participants came from the same "advanced level" fourth-grade classroom (roughly the "top third" of fourth graders). Based on other researchers' experience with this site, we believed this class had the youngest children who would possess strong enough English to comprehend the nuances of our study's script. Data collection took place in January of 2016. Twelve additional participants (of 42 total tested) were excluded due to tester error (n = 1) and comprehension check failures (warm-up task: n = 6, card task: n = 5).

Materials and Procedure

Our materials and procedure were similar to those of Study 1. We made small edits to streamline the script, replaced White children's faces with South Asian children's faces, and changed some of the toy types to toys more familiar to Indian children. Adults in the school community, as well as the participants themselves, found the scenarios described in the script to be easily understandable within their cultural context.

Results

For each of the three trials, participants were given a 0 if they chose the 3-toy child as the giver and a 1 if they chose the 8-toy child as the giver. As shown in Figure 2, one-sample t tests found that participants chose the 8-toy child as the giver significantly more often than would be expected by

chance, $t(29) = 3.71$, $p = .001$, $d = 0.676$; similar results were found using complementary chi-square goodness-of-fit tests, $\chi^2(1, N = 30) = 6.53$, $p = .011$. Independent-samples t tests found no significant differences between the mean scores of boys and girls, $t(28) = 0.86$, $p = .40$, and no significant differences between the mean scores of the Indian sample ($M = 2.17$, $SD = 0.99$) and the 7- to 8-year-olds in the Study 1 American sample ($M = 2.38$, $SD = 0.82$), $t(75) = 1.04$, $p = .30$.

Participants' explanations of their final choice were transcribed and coded using the procedure described previously. A second coder independently coded all sessions except *no response* sessions ($n = 3$) and achieved 96.6% agreement. The 30 requests for explanations yielded 32 codes: 10 were used on trials in which the 3-toy child was chosen as the giver and 22 on trials in which the 8-toy child was chosen as the giver. Results are shown in Table 1. Because the participants were still learning English, a direct comparison of the Indian and American samples' responses is inappropriate. Also, it is possible that the Indian children expected giving from resource-rich individuals for different reasons than the American children, even if such reasons did not reveal themselves in children's explanations. However, the high prevalence of the *quantity* code and the infrequency of other codes in the Indian sample is notable and quite similar to the pattern found in the older American sample. Aside from *other* and *no response* codes, *excess/need* (which was used twice total) was the only code used, suggesting that material considerations were viewed as strongly influencing decisions regarding the likelihood of giving.

Discussion

Despite their differences in culture and family income, both American and Indian children robustly chose the child with eight toys as the likely giver. Indian children, who had routine exposure to extreme contrasts of wealth and were not wealthy themselves, still expected the resource rich to be more likely to give. The replication of our findings in a lower income Indian sample indicates that our pattern of results is not restricted to American children from middle-income families.

It is also important to emphasize the limitations of this particular cultural comparison. Although we can safely make conclusions about the general similarity of quantitative and explanation-based results in both populations, we must be cautious about inferring the causes of this similarity. Indian and American children may differ in broader attitudes toward fairness and inequality (see Blake et al., 2015) and the extent to which children are influenced by adults in their community (Blake, Corbit, Callaghan, & Warneken, 2016). Such issues may have influenced children's responses in our study, although we did not conduct ethnographic research to fully characterize the profiles of each site. It is possible that the forces causing children to choose the resource-rich children as givers may have differed across our samples. It is also worth noting that many students at our Indian site receive tuition subsidies from wealthy donors. We do not know if the students themselves (particularly in the age range we tested) are aware of this, but one could imagine that knowledge of this generosity could create positive beliefs about the resource rich and counteract the extreme wealth contrasts they routinely witness. Despite these caveats, two diverse samples of children showed strong expectations that the resource rich will give. Such expectations may influence or reflect children's attitudes toward those who differ in wealth in the suburban United States and urban India. The most parsimonious explanation for this commonality, which we tentatively advance here, is that children of both cultures reason about the likely behavior of resource-rich and resource-poor others in similar ways.

Why might both samples of children have shown this pattern? We shall focus on our two favored explanations here. One possibility, discussed previously, is that children used basic quantitative principles or their own experiences to reason similarly about how conditions of abundance and scarcity affect one's capacity and willingness to share. Another possibility is that American and Indian cultures, despite their differences, share moral values that are relevant to expectations regarding giving. Although the United States is heavily influenced by Judeo-Christian religious traditions and our Indian sample was mostly Hindu or Muslim, all three religions value the moral principle of charity. In the Hindu religious tradition, *daana*, which roughly translates to "generosity" or "charity," is an important precept: "Gifts rescue the giver from all his sins" (The Mahabharata). Islam also values charity: "He is not a believer who eats his fill while his neighbor is hungry" (Book 6, Hadith 112, Al-Adab al-Mufrad). Texts from all three traditions state the importance of sharing with the less fortunate and thus share crucial similarities pertaining to our topic of study. We are unable to determine whether basic quantitative reasoning principles versus shared cultural input regarding the importance of charity

were responsible for the similarity of results in our two samples. Further research could attempt to distinguish these possibilities.

Study 3

Our similar findings across two culturally diverse samples indicate that our pattern of results is robust. However, particularly in light of the moral precept of charity valued by both cultures, it is possible that our results reveal what children would *like* to occur but do not reveal children's genuine behavioral predictions. Previous research has documented that young children (McAuliffe, Blake, Kim, Wrangham, & Warneken, 2013; Rochat et al., 2009; Shaw & Olson, 2012; Smith, Blake, & Harris, 2013) and even infants (Sloane, Baillargeon, & Premack, 2012; Sommerville, Schmidt, Yun, & Burns, 2013) possess egalitarian norms; children generally expect and endorse the equal distribution of resources between two recipients in third-party contexts. Thus, children's decisions in our studies may reflect preferences for seeing the resource rich behave the way they "should," in a manner consistent with ideal, egalitarian norms, even if children do not truly think that the resource rich are more likely to give. If this is the case, children's performance in Studies 1 and 2 can be characterized as revealing "wishful thinking" rather than genuine behavioral expectations.

Do children think that those with more have a greater obligation to give than those with less? Although previous studies have examined children's deontic judgments regarding resource distribution (see Sheskin et al., 2016; Smith et al., 2013), we know of no research testing this belief directly. We conducted Pilot Study 2 in the spring of 2015, prior to Study 1, to address this question. Our findings show clear evidence that children believe the resource rich have a greater obligation to give than the resource poor, necessitating further research to test whether children view the resource rich as actually more likely to give, which we provide in Study 3.

Pilot Study 2

Participants were asked to indicate who should give instead of keeping, and who should keep instead of giving, in two separate, counterbalanced blocks of three trials each. The visual stimuli were used in other studies reported here; we showed contrasts of three toys and eight toys in each pair. The script was shorter than the Study 1 script: While we stated that the target children "really like" the toys in question, we did not clarify that the toys were "their favorite things to play with." Our participants consisted of thirty-five 4- to 5-year-olds and thirty-four 7- to 8-year-olds. Participants were given a 1 if they chose the 8-toy child as the one who should give on the "give blocks" and a 1 if they chose the 3-toy child as the one who should keep on the "keep blocks"; on individual trials in both blocks, a score of 1 indicated a belief that those with more have a greater obligation to give than those with less.

Four- to 5-year-olds chose the 8-toy child as the one who should give, $M = 2.57$, $SD = 0.82$, $t(34) = 7.78$, $p < .001$, $d = 1.32$, and were at chance regarding who should keep, $M = 1.43$, $SD = 1.34$, $t(34) = 0.32$, $p = .75$, $d = 0.05$. Seven- to 8-year-olds overwhelmingly chose the 8-toy child as the one who should give, $M = 2.94$, $SD = 0.24$, $t(33) = 35.19$, $p < .001$, $d = 6.03$, and the 3-toy child as the one who should keep, $M = 2.91$, $SD = 0.29$, $t(33) = 28.59$, $p < .001$, $d = 4.90$. Thus, both age groups think the resource rich, relative to the resource poor, should share with others. We believe this is the first study to clearly show that children view individuals who differ in their wealth as subject to different obligations regarding giving. Smith et al. (2013) found that children believe others should share generously and are optimistic about the likelihood that others will do so. Putting these findings alongside Pilot Study 2, it is possible that children's Study 1 and Study 2 judgments reflected beliefs about what should happen, independent of perceived likelihood.

Thus, in Study 3, we incentivized children to get the "correct" answer by converting our hypothetical situations into real-world decision-making tasks, changing the context of our study and raising the stakes for our participants. Our script was similar to that of Study 1, although here participants were told that their ability to win a toy was contingent on correctly guessing which of two children gave one of their toys away. Presumably, children's true beliefs are most likely to be elicited if a reward is at stake. If children's Study 1 performance did not reflect children's beliefs about the actual likelihood of sharing but rather their desired state of affairs, then children should show a different pattern of results in Study 3. However, we predicted a similar pattern of results to that of Study 1; such a pattern would suggest that children truly believe the resource rich are likelier to give than the resource poor. To increase the validity and generalizability

of our findings, we had research assistants who were blind to our research questions and unaffiliated with our research team collect most of the Study 3 data.

Method

Participants

Our final sample consisted of thirty-eight 4- to 5-year-olds (20 girls; M = 60.29 months, SD = 7.03, range = 49–71) and twenty-eight 7- to 8-year-olds (15 girls; M = 95.00 SD = 7.06, range = 84–106), tested at festivals and museums (n = 29) in New England and a museum in northern California (n = 37). We avoided testing in schools because of concerns that students, who know each other, would discuss the study together and tell their peers the "correct" answer that would allow them to win a prize. The California participants were tested by two research assistants who had substantial developmental research experience but were unaffiliated with our research laboratory. We trained these research assistants extensively on our procedures through video conferences and comments on videotaped practice sessions with child participants while keeping them blind to the predictions and conceptual framework of our study. We intentionally oversampled the younger age group because we anticipated that aspects of our new procedure might have proven more challenging for our younger participants, leading to higher rates of exclusion and also greater variability in the usable data in this age group.

Data collection took place in the spring and summer of 2015. Data collection proceeded in two waves. The California data were collected second, and the total number of participants to be tested by that site was determined before data collection began (this number included participants whose data were ultimately excluded). Twenty-four participants were White, 15 were Asian, 4 were biracial, 3 were Latino/a, and 2 were Black. Information about race was not available for 18 participants. Sixteen additional participants (of 82 total participants tested) were excluded due to comprehension check failures (warm-up task: n = 1, card task: n = 4), tester error (n = 3), extreme shyness (n = 1), sibling interference (n = 1), equipment failure (n = 1), limited English proficiency (n = 1), testing interruptions (n = 1), and premature responses followed by changes in "final answers" over the course of the study (two participants initially chose the 8-toy child as the giver then switched to the 3-toy child; one participant did the opposite). Only one child per family was permitted to participate in this study due to concerns about contamination across participants.

Materials and Procedure

With a few notable changes, the script was similar to that of Study 1. Here, we wanted to motivate children to produce the "correct" answer as they saw it. Thus, we told participants that two children whose favorite toys were bouncy balls had visited the testing site earlier that day. One child had eight bouncy balls, and one child had three bouncy balls. Only one of the two children decided to give one of their toys away to another child. Participants could win the prize of the bouncy ball that had been given away, which the experimenter displayed, but only if they guessed who gave it away (i.e., who gave it to the participant). We only conducted a single trial of the study because we reasoned that with multiple trials children might hedge their guesses by switching their answers across trials. Based on some children's excitement while waiting to find out if they had "won," participants seemed to believe the storyline and viewed their ability to win a prize as contingent on their responses. Regardless of their answers, all children received prizes and were debriefed after the study's conclusion (our story was "just for pretend"). As the California testers were purposely naïve to the project and were trained remotely, all videos from this site were checked for script fidelity.

The photographs of the target children (one pair of boys and one pair of girls) were matched to the participant's sex, with randomization as described previously. To streamline the procedure, we eliminated the "keeping card," although the card check questions (which required alternating the "giving card" placement) were still asked. We made such changes to make the study faster, more engaging, and more amenable to administration by remotely trained testers.

Results and Discussion

Twenty-seven of thirty-eight 4- to 5-year-old participants (71%) chose the 8-toy child as the giver (binomial p = .014). Twenty-three of twenty-eight 7- to 8-year-old participants (82%) chose the 8-toy child as the giver (binomial p = .001). Boys and girls were similarly likely to choose the 8-toy child as the giver, $\chi^2(1, N = 66) = 0.760$, p = .383, as were the younger and older age groups, $\chi^2(1, N = 66) = 1.080$,

$p = .299$. Both research teams yielded similar results; a chi-square test found no significant differences between sites ($p = .24$; participants chose the 8-toy child as the giver on 82.7% of trials at the New England site and 70.3% of trials at the California site).

When incentivized to give the correct answer, children continued to endorse the 8-toy child as the giver. This suggests that the studies reported here do not reflect "wishful thinking" or social desirability concerns but rather children's genuine beliefs about the relative likelihood that the resource rich or resource poor will share. Children seem to believe that the resource rich should give to others and will actually do so.

General Discussion

In Study 1, we found that both preschool- and elementary school-age American children expect the resource rich to be more likely to benefit others than the resource poor. In Study 2, we replicated these results in a lower income sample of children in India. In Study 3, we found similar results using a behavioral measure, indicating that our results reflect children's genuine beliefs about the relative likelihood that the resource rich or resource poor will give. We believe this is the first study to show that young children use information about resource wealth, in the absence of explicit "rich versus poor" labels, to make predictions about prosocial behaviors and specifically expect resource wealth to influence giving. For the sake of brevity, and due to the similarities of results, we will combine discussion of our American and Indian samples here, although as we explain in the Study 2 Discussion, different factors could be responsible for each study's findings.

Because our task involved a forced choice between two options, we cannot conclude if children's differential expectations regarding giving were driven by beliefs that the resource rich are likely to give or the resource poor are likely to keep (i.e., unlikely to give). However, we believe the former is more likely. Pilot Study 2, which asked about "giving" and "keeping" in separate blocks, found that younger children believed the child with more should give but were at chance on who should keep, suggesting that beliefs about giving (or the resource rich) are stronger than beliefs about keeping (or the resource poor). In our core studies, our procedures prevented children from declaring that both children, or neither child, will give. We chose to do a forced-choice task to simplify our procedure and because choices of both children or neither child as givers would not address our key research question regarding relative likelihood of giving. We speculate, however, that children would often predict that at least one child would give if presented with "one, neither, or both" options, consistent with research on children's overall positivity bias (Boseovski & Lee, 2006) and optimism regarding others' giving specifically (Smith et al., 2013).

To return to our explanations for children's prowealth preferences: Children may indeed be drawn to the objects that resource-rich people possess, but they also expect quantity of objects to influence behavior, indicating that prowealth preferences can be viewed as "social." Such preferences are not solely based on preferences for objects in the absence of predictions about how the owners of the objects will behave. Our quantitative results are equally compatible with the narrower (children make prowealth behavioral predictions only in the domain of "sharing" behaviors) and broader (children make prowealth behavioral predictions in a variety of domains) versions of the "behavior-based preferences" explanation. However, children's verbal responses are more consistent with the narrower version: Children often referenced quantity of resources rather than perceived advantages in traits such as kindness. Further study is required to fully adjudicate between these two versions. One potential line of research could explore whether children expect individuals who differ in resource wealth to be relatively more or less likely to engage in prosocial and antisocial behaviors that are unrelated to the distribution of resources. Our prediction is that children would show reductions in prowealth behavioral predictions as behaviors are further removed from the context of resource distributions, consistent with a narrower, behavior-based explanation. However, if children continued to strongly endorse resource-rich children as likelier to perform a variety of prosocial actions, stronger evidence would be provided for a broader, affective tagging-based explanation.

Our study does not provide direct evidence concerning either causal or correlational links between prowealth social preferences and prowealth expectations regarding giving; we tested social preferences and behavioral predictions using similar stimulus items but in separate groups of participants. Collecting such measures within subjects would provide stronger evidence for such a correlation. However, aside from problems posed by study length and contamination across measures, children's expectations that the resource rich will

give were so strong that directly addressing such questions would be difficult. In Study 1, 53 participants chose the 8-toy child as the giver on all three trials. In marked contrast, only four participants never chose the 8-toy child as the giver. Thus, large sample sizes would be needed to find enough children who did not expect giving from the resource-rich child. Additionally, a choice of the 3-toy child as the giver could stem from inattention to details of the script: As giving causes individuals to possess less, whereas keeping does not, children who failed to track the temporal sequence of the storyline could think the child with three toys must be the giver even if their actual preferences and expectations favored the modal pattern described here.

It is important to note that the older American children in our pilot study did not show significant preferences for individuals with more resources. Thus, in an experimental context, it is possible for children to favor the resource rich as givers without favoring them as friends. However, we do not know what children's "true" social preferences were and had no behavioral measure of social preferences as a counterpart to our "real-world" measure of giving expectations in Study 3. Many interpretations for this null result are possible. Perhaps younger children have a simpler quantity-based heuristic that leads them to always favor individuals with more toys, whereas older children may only view individuals who have both more toys and "good taste" in toys as socially desirable. If older children were less interested in the toys we used, they may also have focused more on photographed children's appearance rather than their possessions; such a focus would lead to at-chance scores, because each child's photograph was similarly likely to appear with 3 or 8 toys. Of course, it is also possible that older children simply do not view the resource rich as more socially desirable. If true, children may view the resource rich as likelier givers without preferring them as friends.

However, our favored interpretation of our pilot study results is that some older children were masking their true preferences out of social presentation concerns. Previous research has found that children gradually develop self-presentation concerns during the elementary school years (Banerjee, 2002). Of particular relevance to our findings, with increasing age, children show reduced racial bias in explicit measures, even as their implicit attitudes show similar levels of bias (Banaji et al., 2008; see also Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008, on "race-blind" norms), and also become more sensitive to egalitarian norms (Blake et al., 2015). In first-person resource distribution tasks, children adhere to quantity-based equality at younger ages than quality-based equality (Sheskin et al., 2016), suggesting that they view quantity-based equality as more important to their moral reputations. Although we have strong evidence that 4- to 5-year-olds show explicit social preferences for resource-rich individuals in a variety of circumstances, the evidence that older children show explicit social preferences for resource-rich individuals comes from studies that incorporate information about resource quality rather than quantity (e.g., Dunham et al., 2014; Shutts et al., 2016). Perhaps the older children in our sample have learned that, much like race, toy quantity is not a socially sanctioned criterion for friendship decisions and refrain from showing favoritism based on such salient contrasts. However, such children may continue to show resource-rich preferences in real-world contexts or when contrasts of resource quality are used instead. If our suspicions are true, overt prowealth preferences may be difficult to study in older elementary school-aged children.

We do not know whether children's beliefs that the resource rich are more likely to give are restricted to decisions involving straightforward contrasts of quantity or if children would also expect greater likelihood of giving from individuals who, for instance, live in nicer houses. The extent to which children of different ages may infer wealth or social status from contrasts in toy quantity, and other kinds of resource quality, is also unclear. Further study could explore children's behavioral predictions on the basis of more enduring symbols of resource wealth, such as houses and cars (Dunham et al., 2014; Shutts et al., 2016), to test children's inferences about wealth and social status. We predict that, to the extent that children can accurately interpret wealth symbols and associate broader resource wealth with symbols such as "nice houses," children will also expect giving from individuals who display such trappings of wealth.

We are not claiming that expectations regarding the proclivities of the resource rich to share are the sole cause of children's prowealth social preferences; such preferences likely have many sources which may be differentially elicited in a context-dependent fashion. However, we believe our explanation that children prefer the resource rich because they are viewed as givers should be considered as a possible candidate due to its strengths in explaining why young children from diverse backgrounds show prowealth social preferences. This version of

the "behavior-based preferences" explanation is consistent with evidence that lower income children may show prowealth preferences that exceed those of higher income children (Dunham et al., 2014). The prospect of obtaining goods from a resource-rich friend may be even more enticing for children whose young age limits their ability to obtain resources independently (see Sheskin, Chevallier, Lambert, & Baumard, 2014), perhaps especially for children whose family members have a reduced capacity to provide them with desired objects. This explanation is also consistent with interview-based studies showing that the most common method of becoming rich mentioned by 6-year-olds is to ask others for money (Leahy, 1983). Finally, this explanation does not posit that detailed stereotypes about the rich and poor are required for prowealth social preferences. Instead, expectations that the resource rich will share, and thus are valuable social partners, could emerge from basic quantitative reasoning and may be operative even in infancy.

Our study investigated absolute rather than proportional giving, whereas most studies on the topic of how wealth influences giving use adult participants and focus on proportional giving, that is, what one gives relative to what one possesses (Bennett, 2012; James & Sharpe, 2007). We believe our approach is most suitable to answering the question of whether children expect to reap material benefits from a given social relationship. Are children accurate in their expectation that the resource rich are likelier to share than the resource poor? Posid, Fazio, and Cordes (2015) found that young children, when given a windfall of resources, used proportionality rather than absolute number to guide their own giving, such that children who were given 30 stickers gave away a similar proportion, and a greater absolute number, than children who were given 12 stickers. Thus, a recipient would reap greater benefits from the child with 30 stickers than the child with 12 stickers. The effects of actual income and socioeconomic status (SES) on giving are less clear. Some studies have found that low-income children (Benenson, Pascoe, & Radmore, 2007) and adults (Nettle, Colléony, & Cockerill, 2011) give less to others in dictator games (such results are equally compatible with the claims that such individuals give less due to their material need for goods vs. are less disposed to generosity). Others have found that low income, low SES children (Chen, Zhu, & Chen, 2013; Miller, Kahle, & Hastings, 2015) and adults (Piff, Kraus, Côté, Cheng, & Keltner, 2010) behave more generously than high income, high SES individuals, who behave more selfishly (Dubois, Rucker, & Galinsky, 2015).

Regardless of which pattern is more accurate, we believe what is most important to guiding children's behavior is their expectations, regardless of whether they are veridical. It is also clear that children's expectations about how resource wealth influences giving show continuity in the age range we tested. Thus, to the extent that older children in our sample have more experience with individuals who possess varying amounts of goods, such experience at least does not upend their earliest expectations. Children's beliefs regarding whether the resource rich or resource poor will give more *proportionally* may change with development; however, as mentioned previously, the question of absolute giving may be more important to influencing children's social preferences. As children grow older, they may be less likely to expect to receive direct giving from other people, including the resource rich. However, older children may view the resource rich as possessing the ability to acquire goods and favor them as sources of information about attaining resource wealth (see Henrich & Gil-White, 2001).

Children's beliefs about the behavior of the resource rich and resource poor become more complex as children progress through the elementary school years and gain exposure to both positive and negative portrayals of the rich and the poor (Short, 1991; Stendler, 1949). By adulthood, individuals often hold more ambivalent attitudes toward the wealthy, though they may still give preferential treatment to the rich and possess favorable attitudes toward them, especially on an implicit level (Horwitz & Dovidio, 2015). Furthermore, adults more clearly recognize that people often fail to behave the way they should, and thus even if the wealthy *should* give to others, it does not mean that they actually will. However, as shown in our studies, the notion that "nobility obliges" has its roots in early childhood. Such a notion may prove irresistible even throughout adulthood, despite a wealth of evidence to the contrary.

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Appendix 1

Additional Reporting of Pilot Study 1

Our sample consisted of twenty-six 4- to 5-year-olds (13 girls; M = 61.27 months, SD = 6.50, range = 48–71) and twenty-four 7- to 8-year-olds (10 girls; M = 96.71, SD = 7.52, range = 84–106). Our participants were tested in public schools (n = 9), our laboratory (n = 8), children's and natural history museums (n = 9), and private or parochial preschools and elementary schools (n = 24). Thirty-nine participants were White, 4 were biracial, 3 were Latino/a, 2 were Asian, 1 was Black, and 1 was Middle Eastern. Data collection took place in the fall of 2014 and winter of 2015. Three additional participants (of 53 total participants tested) were excluded due to equipment failure (n = 1) or comprehension check failure (warm-up: n = 2). Prior to the social preferences questions, participants also completed a warm-up task, which is described in Appendix 2, and took place before all studies reported here. Whether each child appeared on the left or right side of the screen and with three or eight toys was randomized for each participant.

Complementary nonparametric analyses tested whether participants preferentially chose the 8-toy child (scores of 2 or 3) or the 3-toy child (scores of 0 or 1) as their preferred friend. Four- to 5-year-olds, $\chi^2(1, N = 26) = 12.46$, $p < .001$, but not 7- to 8-year-olds, $\chi^2(1, N = 24) = .67$, $p = .41$, significantly preferred the 8-toy child as their friend.

Additional Reporting of Study 1

Complementary nonparametric analyses tested whether participants preferentially chose the 8-toy child (scores of 2 or 3) or the 3-toy child (scores of 0 or 1) as the giver. Chi-square goodness-of-fit tests found that both 4- to 5-year-olds, $\chi^2(1, N = 47) = 13.30$, $p < .001$, and 7- to 8-year-olds, $\chi^2(1, N = 47) = 26.06$, $p < .001$, were significantly more likely to choose the 8-toy child than the 3-toy child as the giver.

Additional Reporting of Pilot Study 2

Our sample consisted of thirty-five 4- to 5-year-olds (18 girls; M = 60.03, SD = 5.79, range = 49–71) and thirty-four 7- to 8-year-olds (16 girls; M = 96.00, SD = 7.05, range = 84–107). Our participants were tested in our laboratory (n = 4), children's and natural history museums (n = 42), and private preschools and elementary schools (n = 23). Forty-five participants were White, 2 were biracial, 6 were Asian, 1 was Black, and 1 was Latino/a. Information about race was unavailable for 14 participants. Data collection took place in the winter and spring of 2015. Seven participants (of 76 total participants tested) were excluded due to comprehension check failure (warm-up: n = 4), experimenter error (n = 2), or severe inattention (n = 1). Whether each child appeared on the left or right side of the screen and with three or eight toys was randomized for each participant.

Complementary nonparametric analyses tested whether participants preferentially chose the 8-toy child (scores of 2 or 3) or the 3-toy child (scores of 0 or 1) as the one who should give. Both 4- to 5-year-olds, $\chi^2(1, N = 35) = 17.86$, $p < .001$, and 7- to 8-year-olds (all participants chose the 8-toy-child on two or three trials), did so. Regarding choices of who should keep: 4- to 5-year-olds showed no significant preference, $\chi^2(1, N = 35) = .26$, $p = .612$, whereas 7- to 8-year-olds chose the 3-toy child as the one should keep (all participants chose the 3-toy child on two or three trials).

Appendix 2

Warm-Up Task Description

This task was designed to familiarize participants with the experimenter and to act of making decisions on the basis of visual information conveyed using the iPad, as well as to reduce a perseverative side bias. For the first question, participants were shown photographs of a boy in a red shirt (on the participant's left) and a boy in a blue shirt (on the participant's right), told that their favorite colors were red and blue, respectively, and were asked to indicate, "Who will play with the blue toy today?"

The second question was similar except that the target children were girls and participants were asked to indicate, "Who will play with a red toy?" The "correct" answer was on the right side of the screen for the first question but on the left for the second question; this feature was included in hopes of reducing a perseverative side bias on subsequent questions. The photographs were of Black boys and Asian girls. Because the images in all subsequent tasks were of White children, we included non-White faces in the warm-up task to increase the likelihood that participants would see pictures of children of their own race at some point in the study.

Card Training Task Description

First, the experimenter showed the participant each card ("giving" or "keeping") individually. After the meaning of the cards was explained (e.g., "this is the card we'll use when we think a kid will give something to someone else"), participants were instructed to repeat the names for the cards and the experimenter placed the cards on a mat in front of the participants, oriented vertically. For one card check question, participants were shown photographs of two boys and told that one child (on the participant's left) will give some candies to a friend, and one child (on the right) will keep all his candies instead of giving some away. Then, participants were asked to use the cards to indicate what the children will do. The other card check question was similar except that the target children were girls and the giver was on the right instead of the left. A perseverative bias, or a failure to encode the meaning of the cards, would likely have resulted in failures on at least one of these trials and exclusion from the sample. The use of the cards served as reminders that participants would make mutually exclusive choices about the children in each question ("giving" was possible for only one child in each pair because there was only one "giving card").

Whether the "giving card" was discussed first or second, both in the training task and throughout the rest of the script, was counterbalanced, and whether the "giving card" was displayed on the top or bottom of the mat was randomized for each participant; these factors did not affect the results, and thus we do not report results separately for these elements of the study.

Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Data S1. Scripts for Studies 1, 2, and 3.

Data S2. Additional Reporting of Coding System for Studies 1 and 2.