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Authors

Heyman, Gail
Barner, David
Heumann, Jennifer
et al.

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Children's Sensitivity to Ulterior Motives When Evaluating Prosocial Behavior

Gail Heyman, David Barner, Jennifer Heumann, Lauren Schenck

Department of Psychology, University of California at San Diego

Abstract

Reasoning about ulterior motives was investigated among children ages 6–10 years (total $N = 119$). In each of two studies, participants were told about children who offered gifts to peers who needed help. Each giver chose to present a gift in either a public setting, which is consistent with having an ulterior motive to enhance one's reputation, or in a private setting, which is not consistent with having an ulterior motive. In each study, the 6- to 7-year olds showed no evidence of understanding that the public givers might have ulterior motives, but the 8- to 10-year olds rated the private givers more favorably. In Study 1, the older children were more likely than the younger children to refer to impression management when explaining their judgments of the givers. The younger children who mentioned impression management did so to justify a preference for public givers (e.g., by explaining that public givers are nicer because more of their peers will know that they are nice). Results from Study 2 suggest that developmental change in children's reasoning about intentions and social outcomes contributes to their understanding of ulterior motives.

Keywords: Development; Intention; Prosocial behavior; Social cognition; Impression management; Moral cognition

1. Introduction

In recent years, a picture has begun to emerge of young children as "intuitive moralists" (Thompson, Meyer, & McGinley, 2006; Turiel, 2006). Children begin to actively police violations of social rules by as early as age 2 (Rakoczy, Warneken, & Tomasello, 2008; Ross & Bak-Lammers, 1998). By age 3, they consider rule violations that involve moral principles (e.g., prohibitions against harming others) to be more objectionable than those that do not (Smetana & Braeges, 1990; Turiel, 2006). Even preverbal infants form positive and negative impressions of other people's social acts and use them to guide

Correspondence should be sent to Gail Heyman, Department of Psychology, University of California, San Diego, 9500 Gilman Dr., La Jolla, CA 92093-0109. E-mail: gheyman@ucsd.edu

their behavior (Hamlin, Wynn, & Bloom, 2007). This article examines reasoning about acts of generosity, a domain that presents some conceptual difficulties for young children (McCrink, Bloom, & Santos, 2009; Ng, Heyman, & Barner, 2011). Specifically, we asked whether children are sensitive to the ulterior motives that sometimes drive prosocial behavior—like the enhancement of a giver's reputation—and whether they use such knowledge to discount the perceived generosity of ostensibly prosocial actions.

The way that children evaluate generous acts like sharing offers an important window into their approach to moral reasoning. This is because such acts can be motivated either by a selfless desire to benefit the recipient, or by an ulterior motive to enhance one's social reputation (Akerlof, 1980; Glazer & Konrad, 1996). Adults, for example, tend to evaluate generous acts more negatively if they have been cued to the possibility of a self-serving ulterior motive, such as a desire to present oneself as a generous person (Critcher & Dunning, 2011; Ham & Vonk, 2011; Lin-Healy & Small, 2013; see Kelley, 1973). This reasoning involves evaluating an act of giving based on the motives of the giver and inferring the giver's motives from his or her observable behavior. It also involves understanding that a public act of generosity is likely to result in an enhanced social reputation for the giver and thus constitutes a potentially self-serving motive for sharing resources.

Little is currently known about the development of children's understanding of ulterior motives or how the components of such reasoning change during childhood. This is significant because many of the assessments that researchers have used to investigate moral evaluation do not require individuals to differentiate between motives and outcomes or to understand complex social practices such as impression management. In many cases, the positive or negative valence of a motive is correlated with a positive or negative outcome, which makes it possible for children to produce adult-like moral evaluations by considering outcome information only. However, children cannot use this approach in the case of actions that are generated by ulterior motives because the outcome may be positive in valence but based upon a self-serving motive that may not always be seen as negative, especially from the perspective of a young child. Based on this logic, this study investigated children's understanding of ulterior motives to assess their ability to infer motives and reason about impression management in the service of social evaluation. Children's ability to engage in these forms of reasoning has broad implications for social cognitive development, including how children learn to integrate their conceptions of psychological traits, behaviors, and mental states (Heyman & Gelman, 1998, 1999; Nurmsoo & Robinson, 2009) and learn to think critically about social information (Gelman, 2009; Heyman, 2008; Heyman, Fu, & Lee, 2007; Heyman & Legare, 2005; Mills & Keil, 2005, 2008; Moses & Baldwin, 2005).

Although the developmental course of children's reasoning about ulterior motives has not yet been established, previous research has addressed aspects of the abilities that underlie this capacity. This work has included studies on children's understanding of impression management, whereby individuals adapt their behavior in an attempt to influence how they are perceived by others. To infer that a peer has given something in order to appear generous to onlookers, a child must be able to understand that giving implies generosity, that generosity tends to be seen as a positive attribute, and that people's

behavior can be motivated by a desire to create a favorable impression. Children begin to show sensitivity to impression management during the preschool years, and this sensitivity continues to develop over an extended period of time. For example, preschool-aged children appreciate that disclosing a fondness for dolls is more likely to have negative implications for boys than for girls (Gee & Heyman, 2007) and that apologies are more likely to lead to favorable social evaluations than are excuses (Banerjee, Bennett, & Luke, 2010). By age 6, children are able to employ a range of strategies to save face, including apologies, disclaimers, and other justifications (Hatch, 1987), and will praise a drawing more highly if the artist is present rather than absent (Fu & Lee, 2007). However, despite this basic understanding of how different behaviors affect impressions, young children often fail to understand how and why individuals attempt to manage their social reputations. Before age 8, children have difficulty understanding that it is possible to enhance one's reputation by downplaying accomplishments and positive traits (Banerjee, 2000; Watling & Banerjee, 2007). Young children also have difficulty identifying self-presentational motives (Banerjee, 2002; Banerjee & Yuill, 1999). For example, when 6- and 7-year olds are asked to explain why someone who is scared might describe himself as not scared, they only rarely generate interpersonal explanations such as a desire to appear tough (Banerjee & Yuill, 1999). In summary, although children have begun to understand aspects of impression management by at least age 6, this capacity is still incomplete and continues to develop past the age of 8.

In order to reason about ulterior motives effectively, children must be able to infer motives and understand their implications. Previous research suggests that children between the ages of 3 and 6 have some ability to take motive information into account when making evaluative judgments as long as it is provided explicitly (Gee & Heyman, 2007; Heyman & Gelman, 1998; Keasey, 1978; Leon, 1980; Nunez & Harris, 1998; Siegal & Peterson, 1998; Yuill, 1984). For example, Gee and Heyman (2007) found that when 4- and 5-year olds were asked to evaluate a child's claim of feeling ill, they rated it as less plausible when they were told that the child did not want to attend camp that day. However, previous research also points to limitations in young children's reasoning about motives. Preschool children sometimes have trouble inferring motives (Gee & Heyman, 2007) and find it difficult to coordinate information about motives with other sources of information (Zelazo, Helwig, & Lau, 1996). For example, Zelazo et al. (1996) examined the development of the use of a rule according to which punishment is assigned whenever an actor has negative intentions and his or her action results in a negative outcome for a recipient. Although three quarters of adults used this rule, only a minority of young children did so (6% of 3-year olds, 22% of 4-year olds, and 33% of 5-year olds).

In addition to understanding motives and impression management, reasoning about ulterior motives also requires the ability to discount. Discounting occurs when the recognition of one potential explanation for an action reduces the perceived likelihood of alternative explanations. For example, in the event of a generous act such as sharing, the perceived generosity of the giver is reduced if it is made clear that the giver is trying to enhance his or her reputation. The developmental foundations of discounting appear as early as preschool if children are tested in contexts that feature familiar scripts and

schemas (Aloise & Miller, 1991; Dix & Grusec, 1983; Lepper, Sagotsky, Dafoe, & Greene, 1982; Miller & Aloise, 1990). In one study, Lepper et al. (1982) told preschoolers a story about a young protagonist whose mother brought home two new foods, *hupe* and *hule*. Children were told that the protagonist needed to eat one food to earn the right to eat the other (e.g., eating *hupe* to obtain *hule*). Participants inferred that the protagonist preferred *hule* to *hupe*, which suggests that they were able to use the contextually specified contingency to discount the relative value of *hupe* (for similar results, see Aloise & Miller, 1991; Dix & Grusec, 1983). However, outside of highly familiar contexts, children younger than age 8 typically do not engage in discounting (Miller & Aloise, 1990).

2. The present research

Taken together, previous findings suggest that even young children possess some of the critical skills needed to effectively reason about ulterior motives and that these skills develop over an extended period during childhood. The present research investigated the development of children's sensitivity to ulterior motives when evaluating acts of giving. We asked younger (ages 6 and 7) and older (ages 9 and 10) children to evaluate characters who shared resources with a needy friend and to explain their responses. Across two studies, we manipulated whether help was offered in public (which was consistent with the ulterior motive of enhancing one's reputation) or in private (which was inconsistent with the ulterior motive). Our second study also manipulated whether the motives of givers were provided explicitly or had to be inferred, and examined whether the response of onlookers to an action—and thus the reputation of the actor—affects children's evaluations.

3. Study 1

3.1. Method

3.1.1. Participants

Participants were 60 elementary school children (34 males) from a public school in southern California. The younger group ($N = 30$) included first and second graders (aged 6 years 0 months to 7 years 6 months; $M = 6$ years 10 months), and the older group ($N = 30$) included fourth and fifth graders (aged 9 years 0 months to 10 years 8 months; $M = 9$ years 8 months). The sample was approximately 81% Caucasian, 17% Asian-American, and 2% Hispanic.

3.1.2. Procedure

In individual interviews at their schools, children were presented with stories accompanied by line drawings of the characters. The procedure was conducted by one of four experimenters and took about 15 min to complete. Consent procedures were followed as specified by the IRB that approved the research.

Each child was presented with two pairs of scenarios. In each scenario, a character gave away an item after waiting for peers to arrive and observe, or after waiting for peers to leave so that no one would be looking. In one pair of scenarios, the gift was lunch money and in the other pair it was a box of crayons (see Appendix A for an example). The order of the scenarios (lunch money vs. crayons) and the form of giving that was presented first (public vs. private) was counterbalanced. For each participant, all story characters were either exclusively male or exclusively female.

Items were first pilot tested with college students who were asked to rate public and private givers and then explain their responses. The goal of the piloting was to identify scenarios in which adult intuitions were clear and consistent for interpreting the developmental data. In the first version that was tested, private givers were described as putting items into a recipient's backpack when no one was looking. However, a small minority of respondents (3 of 25) rated private givers more negatively than public givers because they found the behavior of the private giver to be "suspicious" or "sneaky." As a result, the scenarios were changed to their present form. When presented with these new scenarios, all 24 adult respondents showed the same pattern of responses, and when asked to justify their responses, each made reference to the giver's desire to enhance his or her reputation in the public giving scenario. The stories were also piloted in a group of ten 6- and 7-year olds, who found the scenarios easy to understand and recall.

3.1.2.1. Niceness judgments: In response to each pair of scenarios, participants were asked to make both absolute and relative forced-choice *niceness judgments* of the public and private givers. First, they were asked to make absolute ratings of each giver using a scale that depicted seven faces, with expressions ranging from a prominent frown (*very, very mean*, coded as -3) to a broad smile (*very, very nice*, coded as 3). Children were asked whether they thought the story character was *nice*, *mean*, or *in the middle*. Responses of "in the middle" were coded as 0. Children who responded "nice" were then asked "how nice?" and were offered the response options *a little nice*, *very nice*, and *very, very nice*. An analogous procedure was used for participants who responded *mean*. Scores were averaged across the two stories. Second, after the second set of contrasting stories (i.e., public vs. private giving) was read, participants were asked a relative forced-choice question concerning whether the public giver or the private giver was nicer.

3.1.2.2. Explanations of niceness judgments: After children completed the niceness judgments for the set of scenarios that was presented second, they were asked to explain the judgments they had just made. One question concerned the motivation of the public giver (e.g., "Why do you think Robert decided to give away his crayons?"), and a second concerned the motivation of the private giver (e.g., "Why do you think James decided to give away his crayons?"). In the third and final question, children were asked to justify the relative judgment they had made for which character is nicer (e.g., "Why do you think Robert is nicer than James?").

Each explanation was coded based on whether it contained a reference to impression management. Responses were coded as relating to impression management if they made reference to a giver's attempt to influence onlookers (e.g., "She wanted everyone to think she was nice") or to enhance his or her image (e.g., "He was showing off to get attention"). Responses that were coded as unrelated to impression management typically referred to characteristics of the giver ("he was being a nice friend" or "he did not like his crayons"), considerations of orderliness in the classroom ("it could be noisy if everyone wants crayons"), the needs of the recipient ("her friend did not have any crayons"), or involved reiterating information that was contained in the scenario ("she let people see"). Further examples are presented in Appendix B. Responses were independently coded by two researchers, one of whom was blind to the conditions and premises of the study. Cohen's kappa was .86.

3.1.2.3. Exploratory measures: Children were also asked four exploratory questions. First, they were asked whether they would choose to give publicly or privately in a similar situation. After responding, they were asked to justify their response. This justification was coded in the same manner as the questions associated with the scenario (i.e., in terms of references to impression management). Next, participants were asked about their expectations concerning the recipient's emotional response (e.g., "How do you think Robert's friend felt when Robert gave him the crayons?"). The final measure concerned skepticism about the intentions of the givers ("If someone gives away crayons to their friend, do we know for sure that they are doing it just to be nice? Can you think of another reason someone might give away crayons?").

3.2. Results

Preliminary analyses indicated no effects of version, character gender, or participant gender; consequently, these variables were not included in subsequent analyses.

3.2.1. Niceness judgments

Children's absolute ratings of public and private givers indicated that older children preferred individuals who gave in private. However, younger children did not, and somewhat surprisingly, they showed a significant preference for individuals who gave in public. Children's niceness ratings (-3 = *very, very mean*; 3 = *very, very nice*) were subjected to a 2×2 repeated measures analysis of variance, with Age Group as a between-subjects factor and Giving Type (*public*, *private*) as a within-subjects factor. There was no main effect of Giving Type ($M_{private} = 1.56$, $M_{public} = 1.43$) on ratings of givers, $F(1,58) = .52$, $p = .47$. However, there was a main effect of Age, $F(1,58) = 20.46$, $p < .001$, with younger children providing higher ratings than older children ($M_{older} = 1.00$, $M_{younger} = 1.98$). Also, there was a significant interaction between Age and Giving Type, $F(1,58) = 14.33$, $p < .001$. Older children rated private givers higher than public givers ($M_{private} = 1.41$, $M_{public} = 0.58$, $t[29] = 2.72$, $p < .05$), whereas younger children rated public givers higher than private givers ($M_{private} = 1.70$, $M_{public} = 2.27$, $t[29] = 2.72$, $p < .05$).

Data from the relative niceness judgments corroborated this finding. When asked who was nicer, older children chose the private giver 78% of the time, but younger children chose the private giver only 35% of the time, $W = 657.50$, $Z = 4.06$, $p < .001$. In addition, a Wilcoxon Matched-Pairs Sign-Ranked Test showed that both groups differed from chance: older children showed a systematic preference for private givers, $W = 204$, $Z = 2.09$, $p < .001$, and younger children showed a systematic preference for public givers, $W = 165$, $Z = 1.70$, $p < .05$.

3.2.2. Explanations of niceness judgments

Impression management scores were computed based on whether each participant ever made reference to impression management on any of the three scenario-related open-ended responses. Overall, 83% of the older children referred to impression management at least once, as compared to only 30% of the younger children, χ^2 ($df = 1$, $N = 60$) $= 17.38$, $p < .01$. Further, 70% of the older children referred to both impression management and preferred private givers, whereas none of the younger children showed this combination. This age-related difference was much greater than the developmental difference in impression management scores taken alone. An explanation can be found in Fig. 1, which shows that the younger children who referred to impression management were significantly more likely to prefer public givers, χ^2 ($df = 1$, $N = 30$) $= 6.43$, $p < .05$. Thus, somewhat surprisingly, younger children were more likely to view public givers as nice when they understood that the giver was attempting to create a good impression. This finding suggests that even the young children who spontaneously referred to impression management lacked a key component of understanding ulterior motives: the notion that all things being equal, a person who holds ulterior motives should be seen as less prosocial than one who does not.
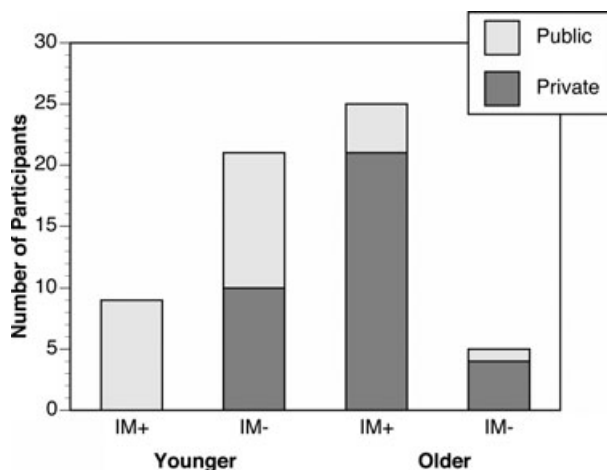

Fig. 1. The number of participants in each age group in Study 1 whose explanations made reference to impression management (IM+), or made no such reference (IM−), and the number of participants who identified public giving or private giving as the best indicator of niceness within each category.

Because older children almost always referred to impression management, we were not able to determine how their responses related to a preference for public versus private giving. Nevertheless, there was no evidence to suggest that impression management scores were related to a preference for public giving within this age group (16% of participants who referred to impression management had a preference for public giving, as compared to 20% of those who did not refer to impression management).

3.2.3. Exploratory measures

A similar pattern of results was seen when children were asked how they would behave in a similar situation. Overall, 22 of the 27 older children who expressed a preference said that they would give privately rather than publicly, as compared to only 10 of the 27 younger children who expressed a preference, χ^2 ($df = 1$, $N = 54$) = 11.05, $p < .01$. Children who said they would prefer to give publicly rated public givers more favorably than private givers, $M_{\text{private}} = 5.04$, $M_{\text{public}} = 6.11$, $t(52) = 3.19$, $p < .01$, but those who said they would prefer to give privately showed the opposite pattern, $M_{\text{private}} = 5.89$, $M_{\text{public}} = 4.95$, $t(52) = 2.96$, $p < .01$. Thus, children's predictions regarding their own giving behaviors were consistent with their evaluations of givers in the public and private giving scenarios.

Further analyses indicated that children's responses to the exploratory measures showed the same pattern of age-related change regarding public and private giving as was seen with the niceness judgments. Specifically, more older participants (43%) than younger participants (20%) made reference to impression management when justifying their own predicted behaviors, χ^2 ($df = 1$, $N = 54$) = 11.05, $p < .001$. In addition, as was the case for the explanations of the niceness judgments, younger participants who mentioned impression management were significantly more likely to say they would give in public (100%) than were those who did not mention impression management (52%), χ^2 ($df = 1$, $N = 27$) = 4.54, $p < .05$. No such pattern was evident among the older children, although as before, this question could not be effectively assessed due to the strong preference for private giving within this group.

Children's expectations concerning how recipients would react to gifts did not differ significantly across conditions. Children's predictions about the recipients' reactions were analyzed using a 2×2 repeated measures analysis of variance, with Age Group as a between-subjects factor and Giving Type (*public, private*) as a within-subjects factor. There were no significant effects of Age Group or Giving Type, and there was no significant interaction. These results suggest that the age-related changes in children's evaluations of public versus private giving cannot be explained by changes in how children reason about the responses of recipients across the different contexts.

Finally, when children were asked whether there were other reasons besides the goal of being nice that could explain why someone might give away crayons, older children (70%) were more likely than younger children (17%) to answer yes (χ^2 [$df = 1$, $N = 60$] = 17.38, $p < .001$), which further suggests that older children were aware of possible ulterior motives.

3.3. Discussion

We found that older children were highly sensitive to the possible presence of ulterior motives, as indicated by the combination of their preference for the private givers on the niceness judgments and their open-ended explanations, which frequently made reference to impression management. In contrast, all of the younger children who made reference to impression management preferred the public givers. These younger children's explanations tended to be consistent with the notion that because more people will know about the goodness of a giver who has offered a gift in public, someone who gives in public should be judged more favorably.

4. Study 2

The younger children in Study 1 showed a surprising preference for public giving over private giving. The goal of Study 2 was to explore two potential interpretations of this result. One possibility is that younger children have trouble spontaneously inferring motives in giving situations. Perhaps only the older children in Study 1 were able to infer that public givers were motivated by wanting to appear nice. If so, then younger children might provide more negative evaluations of public givers if motive information were provided to them directly. We investigated this possibility by contrasting a giver who was described as wanting "to show his classmates how helpful he is," with one who was motivated by wanting "to help."

A second possibility is that younger children evaluate the acts of others based on their social consequences, rather than based on the presence or absence of prosocial motives on the part of the actor. Young children may judge individuals who give in public to be nicer because public acts often evoke a more positive response from onlookers. To explore this possibility, we asked children to reason about a scenario in which a child performs a prosocial act and receives either approval or disapproval from peers in response. Although our focus was on understanding the patterns of reasoning that were seen among the younger group of 6- and 7-year olds in Study 1, we also included an older group of 8- and 9-year olds, which was slightly younger than the older group in Study 1, who were 9- and 10-year olds.

4.1. Method

4.1.1. Participants

Participants were 59 elementary school children (22 males). The younger group ($N = 35$) included children age 6 years 1 months to 7 years 9 months; $M = 7$ years 0 months. The older comparison group ($N = 24$) included children age 8 years 0 months to 10 years 0 months; $M = 9$ years 0 months. The children in the older group were somewhat younger than those in older group of Study 1, which allowed us to examine children at a time point that was in between the age that they showed a systematic preference for

public giving and the age that they showed a systematic preference for private giving to better understand this transition. Children were tested either in their school or in the laboratory. The sample was approximately 83% Caucasian, 10% Hispanic, 3% Asian-American, 2% African-American, and 2% Middle-Eastern.

4.1.2. Procedure

In individual sessions that took about 10 minutes to complete, an experimenter presented children with stories accompanied by line drawings of the characters. There were three tasks. In the first task, which sought to replicate the findings of Study 1, participants were presented with one of the public/private scenario pairs that were used in Study 1, which involved giving crayons.

In the second task, participants were given a similar pair of scenarios, but the public versus private context was not mentioned, and the motives of the givers were stated explicitly. This scenario was as follows.

Max's friend wants to draw a picture, but he does not have any crayons. Max gives his friend the crayons because he wanted to [show his classmates how helpful he is/help him].

In the third task, participants were given a pair of scenarios that were designed to assess whether children's reasoning would be influenced by the responses of onlookers. This scenario was as follows.

Steven was working on a puzzle in class, and had only a few pieces left when he went to get a drink of water. Before he left, Steven told Jack that he was tired of the puzzle and wished someone would finish it for him. After Steven left, Jack finished the puzzle. When the rest of their classmates came back into the room and saw that Jack finished the puzzle, they told Jack that they thought finishing the puzzle was a [selfish/helpful] thing to do.

In response to all three tasks, participants made the same absolute niceness judgments that were used in Study 1. In response to the first two tasks, children also made the same relative niceness judgments that were used in Study 1.

4.2. Results

In the first task, younger children's absolute niceness judgments showed a systematic preference for public givers, ($M_{\text{private}} = 0.60$, $M_{\text{public}} = 1.94$; $F[1, 34] = 10.84$, $p = .002$), but the older children showed no systematic preference ($M_{\text{private}} = 0.88$, $M_{\text{public}} = 1.33$; $F[1, 23] = 1.49$, $p = .24$). Results from the relative niceness judgments showed a similar pattern: Younger children identified the private giver as nicer only 15% of the time ($p < .001$, as indicated by a binomial test), and the older children did so 50% of the time.

On the second task, when motive information was provided explicitly, the younger children's absolute niceness judgments showed no significant effect of motive: They rated

givers the same way whether their motive was to help or to appear helpful to others ($M_{\text{be nice}}$ = 2.29, $M_{\text{appear nice}}$ = 2.18; $F[1, 33]$ = .26, p = .61). In contrast, older participants gave significantly higher ratings to givers when their motive was to help rather than to appear helpful ($M_{\text{be nice}}$ = 2.29, $M_{\text{appear nice}}$ = 1.29; $F[1, 23]$ = 7.46, p = .012). Results from the relative niceness judgments showed a similar pattern: When asked which giver was nicer, the younger children chose the giver who was motivated to be helpful 45% of the time, which was not significantly different from chance. In contrast, the older children chose the giver motivated to be helpful 83% of the time, which is significantly greater than chance (p < .005, as indicated by a binomial test).

Finally, on the third task, younger children responded more favorably when the giver's peers had responded positively rather than negatively ($M_{\text{positive response}}$ = 2.12, $M_{\text{negative response}}$ = 1.61; $F[1, 32]$ = 4.50, p = .042), but the responses of older children showed no such difference ($M_{\text{positive response}}$ = 1.92, $M_{\text{negative response}}$ = 1.88; $F[1, 23]$ = 0.20, p = .890).

4.3. Discussion

As in Study 1, the young 6- to 7-year olds in Study 2 rated public givers as nicer than private givers. In contrast, the older group of 8- to 9-year olds showed no systematic preference, which differs from the pattern seen among the older 9- to 10-year olds in Study 1, who systematically preferred the private givers. This finding suggests that the preference for private givers that has been found among adults and older children is the product of a relatively late developmental shift and that most children become adult-like in their judgments between the ages of 9 and 10.

Also of interest was whether young children would take ulterior motives into consideration if the giver's motives were made explicit. We described the givers as being motivated to be nice, or as being motivated to show how nice they are. The younger children showed no systematic preference for either giver, but among the older children, the stated motive to demonstrate niceness to others led to more negative social evaluations. The finding that children ages 8–9 made more adult-like inferences when motive information was made explicit rather than just implied suggests the presence of an important developmental transition in reasoning about ulterior motives at this age, and it parallels findings concerning trait reasoning among younger children (see Liu, Gelman, & Wellman, 2007).

Finally, Study 2 was designed to examine whether young children might show a tendency to equate social reputation with niceness. We found that the younger children rated a prosocial act more favorably when the giver's peers responded favorably to it, a tendency that was absent among the older children.

5. General discussion

We tested children's ability to consider ulterior motives when making evaluative judgments of prosocial acts. Study 1 examined how 6- to 7-year olds and 9- to 10-year olds

judged public and private givers. Older children showed clear evidence of understanding ulterior motives, as seen by their systematic preference for private givers over public givers and their tendency to spontaneously refer to impression management when explaining their forced-choice judgments. Overall, 70% of the older children both indicated a preference for private givers and referred to impression management to justify this preference. For example, one older child explained his preference for a private giver by saying that he gave "without being a showoff," and another noted that the private giver "did it just to be nice, not for attention or to be popular." Children in this group appeared to understand that individuals who engage in prosocial acts might do so in part to enhance their reputation, and that as a consequence such acts should be considered to be less prosocial.[1]

In contrast, younger children showed little evidence of understanding ulterior motives. Rather than simply being indifferent to whether the giving was done publicly or privately, they showed a systematic preference for public givers. Relatively few younger children mentioned impression management when justifying their judgments (30%), as compared to the older children (83%). Interestingly, whereas the older children who referred to impression management almost universally preferred private givers, all of the younger children who did so judged the public givers to be nicer than the private givers. For example, one younger child justified his preference for public givers by saying that "he wanted to show his friends he was a good person," and another said that the public giver was "clever to do it when everyone is around." Also, younger children were more likely than older children to report that they themselves would prefer to give publicly and provided similar justifications. For example, one younger child said that she would prefer to give publicly "so they would know I am a good person," and another said she would do so because "I want them to think I am nice." Thus, rather than viewing a motive to create a good impression among onlookers negatively, younger children seemed to view it positively.

The goal of Study 2 was to examine the replicability of the pattern seen among young children when reasoning about public versus private giving and to further explore the nature of age-related change in reasoning about ulterior motives. Participants were a group of 6- and 7-year olds and an intermediate age group consisting of 8- and 9-year olds (i.e., slightly younger than the older group in Study 1). In the first task, we replicated the Study 1 finding that younger children show a clear preference for public givers. However, the older 8- and 9-year olds showed no clear preference, and their pattern of response was intermediate between that of the younger children in the two studies and the older children in Study 1, which suggests that an important developmental transition occurs sometime between the ages of 8 and 10. These results are consistent with prior work suggesting that children younger than 8 or 9 often have difficulty with reasoning about strategic communication (Heyman, 2008; Heyman & Legare, 2005; Heyman et al., 2007; Mills & Keil, 2005, 2008; Moses & Baldwin, 2005), and consequently may be particularly vulnerable to being manipulated by others.

When the younger participants in Study 2 were directly provided with information about the givers' motives, they did not differentiate between public and private acts of

giving. This suggests that young children's difficulty with reasoning about ulterior motives cannot be explained by difficulty in inferring motives. In contrast, the slightly older participants were able to systematically make use of motive information when it was explicitly provided, even though they did not show a preference for private giving over public giving when givers' motives needed to be inferred. This finding suggests that children can reason about ulterior motives before they are able to spontaneously infer them from the situational context (see Liu et al., 2007, for related findings among younger children).

Finally, the results of Study 2 provide support for the notion that when young children evaluate prosocial acts, they equate being nice with gaining social approval. Unlike the older children, the younger children in Study 2 rated givers more favorably when their actions earned the approval of peers. This result is consistent with the justifications that younger children provided in Study 1. For example, younger children in Study 1 often explained their preference for public giving by referring to the enhanced social reputation that can be gained by demonstrating one's generosity to others. These findings are consistent with evidence that children younger than about 8 years of age have substantial limitations in their understanding of modesty and other impression management strategies (Banerjee, 2000; Bennett & Yeeles, 1990; Watling & Banerjee, 2007). For example, it is not until children are about 8 years old that they view modest responses to praise more favorably than immodest ones (Banerjee, 2000), and 10- and 11-year olds but not 7- and 8-year olds are able to explain showing off in terms of attempts to influence the attributions of others (Bennett & Yeeles, 1990).

Although our findings show that younger children clearly do not view the desire for social approval as an ulterior motive with negative implications for social evaluation, it remains unclear why this is so and what relevant developmental change occurs between ages 6 and 10. One possibility is that it may reflect changes in children's sense of self, including the ways in which they differentiate between aspects of the self that are private versus publicly observable (see Banerjee, Bennett, & Luke, 2012; Bennett, 1989; Bennett & Gillingham, 1991). For example, young children may believe that there is little difference between others thinking that one is a good person and actually being a good person. Young children's pattern of reasoning may also be part of a broader tendency to focus on the outcomes of actions when making social evaluations (see Mills & Keil, 2005). This possibility is further supported in this study by the tendency of younger children, but not older children, to treat public giving as problematic because of its potential to create conflict within a peer group, such as by provoking jealousy. Future research is needed to examine how reasoning about social approval might compare to reasoning about other outcomes in this context. For example, young children might reason differently about ulterior motives that target material benefits rather than social approval. Future research should also examine the role of intentions and outcomes in older children as they relate to ulterior motives. For example, children could be asked to reason about cases in which intentions or behavior are inconsistent with outcomes, such as when a character waits until no one is around to give, but then is "caught" giving. Presumably, adults would focus on what the individual was trying to do in such a situation, although

even adults sometimes take into account outcome information when assessing altruistic giving (Lin-Healy & Small, 2013).

Future research is also needed to understand the role of cultural factors in children's developing awareness of ulterior motives. Previous cross-cultural studies have shown that modesty norms are stronger in East Asia than in Canada and the United States (Heine, Takata, & Lehman, 2000; Heyman, Fu, & Lee, 2008; Lee, Cameron, Xu, Fu, & Board, 1997). For example, Japanese children generally do not consider it appropriate to accept credit for their own prosocial behavior, whereas American children do tend to find it acceptable (Heyman, Itakura, & Lee, 2011). Thus, to the extent that children interpret acts of public giving as "credit taking," cross-cultural differences may exist between children in countries such as the United States and Japan.

To understand and evaluate ostensibly prosocial acts, children must learn how to reason about the possible ulterior motives that may underlie them, such as the desire to create a positive impression. They also have to learn why having such a desire might be viewed negatively by others and be able to use this knowledge to discount prosocial acts. This study provides evidence that this understanding develops slowly between the ages of 6 and 10, and that it involves a shift in children's reasoning about the implications of motives and social outcomes.

Note

1. It is possible that situational factors affect children's sensitivity to ulterior motives. For example, it is possible that older children are more likely to consider ulterior motives when public and private giving are considered in succession, as they were in our study. Future studies should explore this question, by testing children in a between subjects design.

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Appendix A: Example scenario set used in Study 1 and Study

This is Chelsea. Chelsea's friend wants to draw a picture, but she does not have any crayons. Chelsea waits until a lot of her other friends are looking and gives her friend a box of her own crayons. So everyone sees Chelsea give away the crayons. Do you think Chelsea is nice, mean, or in the middle? How [nice/mean] do you think Chelsea is?

This is Julia. Julia's friend wants to draw a picture, but she does not have any crayons. Julia waits until everyone else has left and gives her friend a box of her own crayons. So no one sees Julia give away the crayons. Do you think Julia is nice, mean, or in the middle? How [nice/mean] do you think Julia is?

Remember, Chelsea waited until everyone was looking to give away her crayons. Julia waited until no one else was looking to give away her crayons. Which girl do you think is nicer, Chelsea or Julia?

Appendix B: Examples of open-ended explanations in Study 1

Explanations for identifying public giver as nicer

younger participants
it was clever to do it when everyone is around; it made it so everyone can see she is nice (IM)
wanted to show his friends he was a good person (IM)
she lets everybody see her
everybody is supposed to look; no one has to hide

older participants
showed everyone he was helping; his teacher would see he was helping (IM)
did not wait to give the crayons
did not matter to him if anyone else was looking
waited till everyone was looking

Explanations for identifying private giver as nicer
younger participants

it could be noisy if everyone wants crayons
if someone sees her give away lunch money they will ask for money too
would not get in trouble since no one saw her give them away
no one would see and fight

older participants
she gave it without being a showoff (IM)

James did it not for popularity; Robert did it for popularity (IM)

Timmy wants people to think he is generous; Matthew is not making it a big deal (IM)

made sure no one could see and did not want to show off (IM)

Note: the label *IM* identifies responses that were coded as referring to impression management.