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SHORT REPORT

Young children care more about their reputation with ingroup members and potential reciprocators

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Abstract

Human cooperation depends on individuals caring about their reputation, and so they sometimes attempt to manage them strategically. Here we show that even 5-year-old children strategically manage their reputation. In an experimental setting, children shared significantly more resources with an anonymous recipient when (1) the child watching them could reciprocate later, and (2) the child watching them was an ingroup rather than an outgroup member (as established by minimal group markers). This study is not only the first to show that young children selectively invest in their reputation with specific individuals, but also the first to show that we care more about our reputation with ingroup than with outgroup members.

Introduction

A concern for one's reputation is a crucial device for maintaining cooperation in human societies (e.g. Nowak & Sigmund, 1998, 2005). In this context, reputation is said to consist of two interrelated processes (Tomasello, Melis, Tennie, Wyman & Herrmann, in press). First, individuals make reputational judgments about others' value as cooperators and refuse to interact with cheaters. Second, being aware of others' reputational judgments, individuals adjust their behavior in order to be viewed in a more positive light – so-called reputation management. Whereas the first process is present in other animal species and appears early in development (Hamlin, Wynn & Bloom, 2007; Herrmann, Keupp, Hare, Vaish & Tomasello, 2012; Melis, Hare & Tomasello, 2006), the second process may be uniquely human (Engelmann, Herrmann & Tomasello, 2012).

The strategic management of reputation requires individuals to be sensitive to whether others are watching. A vast literature demonstrates that adults behave more generously when observed by others (Reis & Gruzen, 1976; van Vugt & Hardy, 2010), increase their donation to a public good when doing so can benefit their reputation (Milinski, Semmann & Krambeck, 2002), and even behave more cooperatively in situations where no actual audience is present but only subtle cues of observation, such as stylized eyespots on a computer screen (Haley & Fessler, 2005).

The few existing studies of the ontogeny of such reputation management behavior have focused almost exlusively on older children (Aloise-Young, 1993; Banerjee, 2002a, 2002b; Banerjee, Bennett & Luke, 2010). Using verbally based tasks, they report positive findings only for children of 8 years and older. For example, Aloise-Young (1993) asked children to explain to a potential team partner why they should be picked as partners for a game. Only subjects from the age of 8 onwards used appropriate self-presentational strategies that would maximize their chance of being picked. As a result, Banerjee (2002b) argues that while 5-year-old children possess the necessary cognitive prerequisites for reputation management, they lack a concern for being socially evaluated (which emerges only during the primary school years). However, it is also possible that previous studies failed to detect reputation management in preschoolers as their methods were inappropriate for young children. Three recent findings tentatively point to that possibility. First, Piazza, Bering and Ingram (2011) investigated children's rule

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following behavior while they were either alone, in the presence of an adult, or in the presence of a watchful invisible person. The authors found that cheating significantly decreased in the presence of the adult relative to when children were alone. Second, investigating children's conformity to peer pressure, Haun and Tomasello (2011) found that children will readily conform to their group's (erroneous) judgments in a public, but not in a private situation (for a similar finding with adult informants, see Corriveau and Harris, 2010). Finally, and perhaps most directly, Leimgruber, Shaw, Santos and Olson (2012) showed that young children are more generous when others are aware of their actions and Engelmann and colleagues (2012) showed that young children steal less and help more in the presence of a peer observer.

Importantly, the strategic management of reputation requires not only that we care whether people are watching but also who is watching (Goffman, 1959). Some individuals evoke greater reputational concern than others – due to their status, their personal relationship with the subject, or their value as cooperators. Previous research with adults (e.g. Reis & Gruzen, 1976) has shown that subjects are more cooperative when observed by an authority or team members. In children, there is relatively little work on sensitivity to audience composition. One exception, however, is a study by Banerjee (2002a). The author found that children from the age of 8 onwards show audience sensitivity in their choice of appropriate self-descriptions. Specifically, participants showed an awareness that different self-descriptions are more likely to impress an audience of academics compared to an audience of athletes.

One crucial factor for reputation management is indirect reciprocity: people may invest in their reputation in order to indirectly benefit from the generosity of others. The strategic management of reputation requires that we reliably identify situations in which we can benefit from creating a specific image, such as being seen as a generous person, and that we seek to look generous in front of those people who are subsequently in a position to help us. Olson and Spelke (2008) showed that preschool children already preferentially share resources with individuals who had previously shared with others. In addition, we know that from at least the age of 5 children possess the necessary cognitive prerequisites for engaging in reputation management (Banerjee, 2002b). We know from a previous study that children are sensitive to whether an observer is watching them (Engelmann *et al*., 2012). Nothing is known, however, about 5-year-olds' tendency to vary their prosocial behavior as a function of whether the observer can benefit them later.

A second crucial factor for reputation management is group membership: people may be more concerned about their reputation with ingroup members. Ingroup members play an important role in our lives for a variety of reasons (Turner, 1991). From an evolutionary point of view, group members depend on each other for their survival – as exemplified by vital coalitionary behaviors such as collaborative foraging and group defense (Marlowe, 2005). This interdependence makes it in individuals' direct interest to impress members of their own social group. Beyond this, the emergence of cooperation in large-scale societies requires that individuals find ways to cooperate reliably with relative strangers (Nettle & Dunbar, 1997). Group markers can serve as a means by which individuals can cooperate with strangers from their own group. We know that children are highly sensitive to minimal cues to group membership from at least the age of 5 and show an ingroup bias on a variety of measures, such as behavioral attribution and resource allocation (Dunham, Baron & Carey, 2011; Killen & Coplan, 2011). But we do not yet know whether young children strategically manage their reputation in the presence of members of different groups – and indeed there are no studies demonstrating this in adults either.

In the current study, we had two aims. Our first aim was to investigate whether 5-year-old children strategically invest in their reputation in an indirect reciprocity framework. Our second aim was to investigate whether 5-year-olds are sensitive to the group membership of the observer and, in particular, whether they show an increased concern for their reputation when observed by an ingroup member compared to an outgroup member. In all conditions, children were given stickers and asked to divide them between themselves and an anonymous and absent recipient (a mini-dictator game; Blake & Rand, 2010). While they did this, they were watched by an unknown peer observer, and the value of this peer observer to the participant was manipulated in two ways. To manipulate opportunities for indirect reciprocity, the observer was told (in the presence of the participant) that after the participant had shared out her stickers, she could share some of her stickers with the participant. We predicted that subjects would share more of their own stickers in the indirect reciprocity condition compared to the condition without opportunities for indirect reciprocity. To manipulate group membership, the participant and the peer observer were either allocated to the same minimal group or to different minimal groups (Dunham *et al*., 2011). We predicted that participants would share more stickers when observed by an ingroup member compared to an outgroup member.

Method

Participants

Participants were 48 5-year-old children (age range = 63 months 8 days to 69 months 28 days; mean age = 66 months and 17 days; 24 girls, 24 boys) who were tested in their day-care centers. Twelve subjects participated in each condition. One participant had to be excluded due to misunderstanding the instructions.

Each participant was observed by a same-sex peer (age range = 56 months 22 days to 71 months 25 days; mean age = 66 months 18 days; 3 girls, 3 boys). Observers were recruited at different day-care centers from the participants (to ensure that they were unknown to each other) and accompanied the experimenters to multiple day-care centers.

In addition, one extra same-sex group member was chosen in each day-care center for participation in the group assignment (age range = 72 months 12 days to 75 months 29 days; mean age = 74 months 5 days; 6 girls, 5 boys).

Materials

Participants were given two identical boxes ($14 \times 5.5 \times 6$ cm) and 10 stickers (1.5×1.7 cm) portraying smiley faces. Observers were given a box ($12 \times 12 \times 6$ cm) and six high-value stickers, portraying dinosaurs for male participants and horses for female participants. This preference was established in an informal pre-test using a different sample. The materials for the group assignment were hooded sweaters, baseball caps, and scarves. There were two sets of these group markers: one in red colour, and one in blue.

Design

We employed a 2×2 design with observer group (ingroup vs. outgroup) as one between-subjects factor and indirect reciprocity (indirect reciprocity vs. no indirect reciprocity) as the second between-subjects factor. Participants thus engaged in one trial in one of four different conditions.

Procedure

One experimenter (E1) entered the room together with the participant. The participant was asked to write her name on a post-it note that was attached to one of the two boxes in order to indicate which box belonged to them. The participant was then told that the other box belonged to a child that the experimenter would supposedly be visiting in a different kindergarten the following day. Next, E1 introduced the allocation task by presenting 10 stickers to the participant and telling him or her that he or she could take all of them home. The participant was told to place the stickers she wanted to take home in her box and that, should she wish to, she could share some of her stickers with the child from another kindergarten. Those stickers should be placed in the other child's box. Participants were thus free to share all or none of their stickers. At this point, E1 checked whether the participant could correctly identify her own and the other child's box. All but one participant identified the boxes correctly. The introduction was repeated to that participant and subsequently he correctly labeled the two boxes.

Finally, E1 told the participant to close both of the boxes once she had distributed the stickers so that no one else could see the distribution.

Before the participant was able to allocate her stickers, a second experimenter (E2) entered the room with the observer and the third child. The three children were told that they had to stand next to each other because they would be told something important by E1. E1 then told the participants that there were two different groups in the game they would now be playing; red and blue. Then E1 appeared to randomly draw (with his eyes closed) a red or blue sweater from an opaque box for each of the participants. (In reality, this was fixed such that an equal number of participants were assigned to both groups.) Each child then received a scarf, matching the colour of the sweater. Finally, each child was given a baseball cap again matching the colour of their group. In the ingroup condition, E1 assigned the participant and the observer to the same group and the third child was assigned to the other group. In the outgroup condition, E1 assigned the participant and the observer to different groups and the third child was assigned to the same group as the participant. After the group assignment, E2 left the room together with the third child.

E1 then asked the participant to sit at a table and the observer to sit on a chair 1.5 metres from the table, perpendicular to the participant (see Figure 1). The identity of the observer varied according to condition. In the ingroup condition, the observer belonged to the same group as the child. In the outgroup condition, the observer belonged to the other group from the child. Once the participant and observer were sitting comfortably, E1 repeated the rules of the allocation game to the participant and then placed the ten stickers individually on the table and asked the participant to count aloud how many there were (this was done in order to ensure that participants knew how many stickers were available).

Figure 1 *Setup in the ingroup observer condition (a) and the outgroup observer condition (b). Only the instructions varied in the indirect reciprocity conditions; the setup remained the same.*

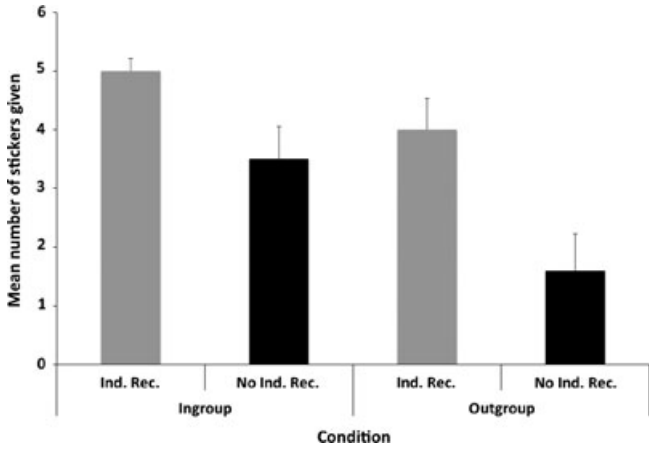

Figure 2 *Mean number of stickers given to the anonymous recipient in the four conditions.*

What happened next varied according to condition. In the indirect reciprocity condition, E1 gave a box and six high-value stickers to the observer and told her that she would first be watching the participant and then play the same game. Specifically, she was told that she could place the stickers she wanted to keep in her box and, should she wish to share some of her stickers with the participant, she could place those in the participant's box. In the no indirect reciprocity condition, E1 placed the same six high-value stickers on a stool next to the observer and told the participant and the observer that they would be playing with them later on.

In all four conditions, E1 then told both the participant and the observer that this was a 'silent game' and that they should not engage in conversation with each other. Finally, as a reminder of their group membership, E1 asked the participant and observer whether their respective red or blue baseball cap was positioned properly on their heads and then left the room. E1 watched the game from outside the room using a DV-Walkman and re-entered the room once the participant had distributed all of his or her stickers.

Coding

The number of stickers donated to the anonymous recipient was coded live as well as later from tape by the first author. A research assistant, who was unaware of the study design and hypothesis, independently coded 25% of all trials. Interrater agreement was excellent (Cohen's $\kappa = 1$).

Results

Figure 2 presents the average number of stickers donated in the respective conditions. The average number of stickers donated were 5 (indirect reciprocity/ingroup condition), 4 (indirect reciprocity/outgroup condition), 3.5 (no indirect reciprocity/ingroup condition), and 1.6 (no indirect reciprocity/outgroup condition). An analysis of variance (ANOVA) revealed a main effect of the indirect reciprocity manipulation – participants gave more when they were likely to benefit from a positive reputation in the second interaction ($F(1, 44) = 14.9$, $p < .001$,$\eta^2 = .25$). There was also a main effect of group membership demonstrating that participants donated more stickers in the ingroup condition than the outgroup condition ($F(1, 44) = 8.26$, $p = .006$,$\eta^2 = .16$). There was no significant interaction between group membership and indirect reciprocity ($F(1, 44) = .82$, $p = .37$).

Discussion

In the current study, we investigated young children's reputation management. In particular, we investigated the extent to which 5-year-olds show audience sensitivity, i.e. invest differentially in their reputation depending on the audience's strategic relevance.

First, we investigated whether young children selectively invest in their reputation in an indirect reciprocity framework. In such frameworks, individuals can benefit from a positive reputation that they have created in a previous interaction. Here, we found that 5-year-old children significantly increased their sticker donation to an absent child if an observing peer was in a position to share his or her high-value stickers with the participant in a subsequent interaction.

Previous research has shown that young children evaluate peers in indirect reciprocity situations and preferentially share resources with individuals who behaved generously towards third-parties (Olson &

Spelke, 2008). Our finding extends this line of research by showing that young children's reputation management goes beyond such social evaluation and partner choice, which might occur without the target knowing that this process is going on and trying to control it. Five-year-olds are in fact aware that this process is going on and actively attempt to influence it. Our result indicates that children are highly sensitive to situations in which they might benefit from creating an image as a fair person. In addition, they are willing to make costly donations in order to secure that image, thereby exhibiting a strong motivation to invest in their reputation.

Second, we investigated whether young children take the group membership of their observer into consideration when investing in their reputation. Here, we found that participants shared significantly more stickers with an absent child when they were observed by someone who belonged to the same group compared to someone who belonged to a different group. Crucially, group membership in the current study was not based on natural cues such as gender or language. Rather, groups were established solely by minimal cues (thus controlling for any effect of familiarity).

This finding suggests ways in which stable large-scale human cooperation – a puzzle that continues to engage theorists from various disciplines – can be achieved. Within large, anonymous groups, alternatives to partner selection mechanisms that are based on familiarity and kinship have to be developed (Nettle & Dunbar, 1997). Otherwise, vital collaborative activities are doomed to fail in the presence of highly mobile and therefore unaccountable defectors. Reliable group markers represent such an alternative as they allow individuals to distinguish between strangers, thereby complementing the role of kinship and familiarity in large-scale societies. Our findings thus support the hypothesis that reputation – especially reputation management with ingroup members – has played and continues to play a pivotal role in the maintenance of large-scale human cooperation (Fehr, 2004).

Furthermore, this is the first research to conclusively show the flexible and strategic nature of young children's reputation management. These results contrast with previous accounts (e.g. Banerjee, 2002b) arguing that social evaluation concern develops only as a consequence of various experiences during the course of the primary school years. Not only is such a concern present in preschoolers, but it also leads to strategic behavior hitherto only associated with adult reputation management. However, in terms of ontogeny, we of course do not believe that the current finding is anything like the end of the story. Experiences in peer groups during the elementary school years expose children to various other facets of their reputation, such as its public nature (Sperber & Baumard, 2012) and the influence of gossip (Sommerfeld, Krambeck, Semmann & Milinski, 2007).

Looking at the results, two further points are noteworthy. First, even in the condition where children had very little to gain from donating their stickers (the no indirect reciprocity/outgroup condition), they still gave some stickers. This could be because the presence of any audience (regardless of its composition) is sufficient to trigger reputational concerns or it could be because children are, at least in part, intrinsically motivated to be prosocial. In line with previous reasearch, we believe that it is most likely a mix of the two, as children are intrinsically motivated to help (Warneken & Tomasello, 2008) as well as sensitive to an audience in general (Engelmann *et al.*, 2012). Second, in none of the conditions did children on average give more than 50% of their stickers. It could be argued that from a strategic point of view, it would make more sense to share even more than 5 out of 10 stickers as this would improve one's reputation further and thus increase one's chances of receiving more high-value stickers. However, sharing 50% of one's stickers is already being very generous seeing that, in most comparable studies, mean donations usually fall in the 20 to 30% range (Henrich, Boyd, Bowles, Camerer, Fehr, Gintis, McElreath, Alvard, Barr, Ensminger, Henrich, Hill, Gil-White, Gurven, Marlowe, Patton & Tracer, 2005). Furthermore, sharing more than 50% of stickers might not even result in a better reputation. For, as recently proposed by Sperber and Baumard (2012), a cooperation market does not select for any type of morality, but for morality as fairness. In consequence, it is not through behaving super-generously, but rather through behaving in a fair manner, that we achieve the 'ideal' reputation.

Finally, two aspects of our study allowed us to model the reality of large and anonymous societies as closely as possible. First, we made sure that there had been no prior interaction between the participant and the observer by recruiting them from different day-care centers. Second, the recipient of the participants' donations was unknown and absent. These manipulations allowed us to rule out explanations of the participants' behavior based on familiarity and past experience, aspects that are central to two other mechanisms explaining the evolution of cooperation, kin selection and direct reciprocity.

We have shown that already 5-year-old children engage in reputation management. Importantly, they do not do so in a fixed and inflexible manner, but with a sensitivity to audience composition and an ability to identify strategically relevant situations paired with a motivation to invest in a reputation as a prosocial

person. This finding further corroborates the contention that while young children have an intrinsic motivation to help others (Warneken & Tomasello, 2008, 2012) and see others helped (Hepach, Vaish & Tomasello, 2012), they are also influenced by the various social contexts they find themselves in (Over & Carpenter, 2009), highlighting the inherently social nature of helping behavior. Future studies should further investigate the development of prosocial behavior with respect to a variety of social environments.

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References

Aloise-Young, P.A. (1993). The development of self-presentation: self-promotion in 6- to 10-year-old children. *Social Cognition*, **11**, 201–222.

Banerjee, R. (2002a). Audience effects on self-presentation in childhood. *Social Development*, **11**, 487–507.

Banerjee, R. (2002b). Children's understanding of self-presentational behavior: links with mental-state reasoning and the attribution of embarassment. *Merrill-Palmer Quarterly*, **15**, 378–404.

Banerjee, R., Bennett, M., & Luke, N. (2010). Children's reasoning about the self-presentational consequences of apologies and excuses following rule violations. *British Journal of Developmental Psychology*, **28**, 799–815.

Blake, P.R., & Rand, D.G. (2010). Currency value moderates equity preference among young children. *Evolution and Human Behavior*, **31**, 210–218. doi: 10.1016/j.evolhumbehav.2009.06.012

Corriveau, K.H., & Harris, P.L. (2010). Preschoolers (sometimes) defer to the majority in making simple perceptual judgments. *Developmental Psychology*, **46**, 437–445.

Dunham, Y., Baron, A., & Carey, S. (2011). Consequences of 'minimal' group affiliations in children. *Child Development*, **82**, 793–811.

Engelmann, J., Herrmann, E., & Tomasello, M. (2012). Five-year olds, but not chimpanzees, attempt to manage their reputations. *PLoS ONE*, **7**. doi: 10.1371/journal.pone.0048433

Fehr, E. (2004). Don't lose your reputation. *Nature*, **432**, 449–450.

Goffman, E. (1959). *The presentation of self in everyday life*. London: Penguin.

Haley, K.J., & Fessler, D.M. (2005). Nobody's watching? Subtle cues affect generosity in an anonymous economic game. *Evolution and Human Behavior*, **26**, 245–256. doi: 10.1016/j.evolhumbehav.2005.01.002

Hamlin, J.K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature*, **450**, 557–559.

Haun, D.B.M., & Tomasello, M. (2011). Conformity to peer pressure in preschool children. *Child Development*, **82**, 1759–1767.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., Gintis, H., McElreath, R., Alvard, M., Barr, A., Ensminger, J., Henrich, N.S., Hill, K., Gil-White, F., Gurven, M., Marlowe, F.W., Patton, J.Q., & Tracer, D. (2005). 'Economic man' in cross-cultural perspective: behavioral experiments in 15 small-scale societies. *Behavioral and Brain Sciences*, **28**, 795–815. doi: 10.1017/S0140525X05000142

Hepach, R., Vaish, A., & Tomasello, M. (2012). Young children are intrinsically motivated to see others helped. *Psychological Science*, **23**, 967–972.

Herrmann, E., Keupp, S., Hare, B., Vaish, A., & Tomasello, M. (2012). Direct and indirect reputation formation in non-human great apes and human children. *Journal of Comparative Psychology*. Advance Online Publication. doi: 10.1037/a0028929

Killen, M., & Coplan, R. (Eds.) (2011). *Social development in childhood and adolescence: A contemporary reader*. New York: Wiley/Blackwell Publishers.

Leimgruber, K.L., Shaw, A., Santos, L.R., & Olson, K.R. (2012). Young children are more generous when others are aware of their actions. *PLoS ONE*, **7**, e48292. doi: 10.1371/journal.pone.0048292

Marlowe, F.W. (2005). Hunter-gatherers and human evolution. *Evolutionary Anthropology*, **14**, 54–67.

Melis, A.P., Hare, B., & Tomasello, M. (2006). Chimpanzees recruit the best collaborators. *Science*, **311**, 1297–1300.

Milinski, M., Semmann, D., & Krambeck, H.-J. (2002). Reputation helps solve the 'tragedy of the commons'. *Nature*, **415**, 424–426. doi: 10.1038/415424a

Nettle, D., & Dunbar, R.I.M. (1997). Social markers and the evolution of reciprocal exchange. *Current Anthropology*, **38**, 93–99.

Nowak, M.A., & Sigmund, K. (1998). Evolution of indirect reciprocity by image scoring. *Nature*, **393**, 573–577.

Nowak, M.A., & Sigmund, K. (2005). Evolution of indirect reciprocity. *Nature*, **437**, 1291–1298.

Olson, K.R., & Spelke, E.S. (2008). Foundations of cooperation in young children. *Cognition*, **108**, 222–231. doi: 10.1016/j.cognition.2007.12.003

Over, H., & Carpenter, M. (2009). Eighteen-month-old infants show increased helping following priming with affiliation. *Psychological Science*, **20**, 1189–1193. doi: 10.1111/j.1467-9280.2009.02419.x

Piazza, J., Bering, J.M., & Ingram, G. (2011). 'Princess Alice is watching you': children's belief in an invisible person inhibits cheating. *Journal of Experimental Child Psychology*, **109**, 311–320.

Reis, H.T., & Gruzen, J. (1976). On mediating equity, equality, and self-interest: the role of self-presentation in social exchange. *Journal of Experimental Social Psychology*, **12**, 487–503.

Sommerfeld, R.D., Krambeck, H.-J., Semmann, D., & Milinski, M. (2007). Gossip as an alternative for direct observation in games of indirect reciprocity. *Proceedings of the National Academy of Sciences of the United States of America*, **104**, 17435–17440. doi: 10.1073/pnas.0704598104

Sperber, D., & Baumard, N. (2012). Moral reputation: an evolutionary and cognitive perspective. *Mind & Language*, **27**, 495–518.

Tomasello, M., Melis, A.P., Tennie, C., Wyman, E., & Herrmann, E. (in press). Two key steps in the evolution of human cooperation: the interdependence hypothesis. *Current Anthropology.*

Turner, J.C. (1991). *Social Influence*. Buckingham: Open University Press.

van Vugt, M., & Hardy, C.L. (2010). Cooperation for reputation: wasteful contributions as costly signals in public goods. *Group Processes & Intergroup Relations*, **13**, 101–111.

Warneken, F., & Tomasello, M. (2008). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Developmental Psychology*, **44**, 1785–1788. doi: 10.1037/a0013860

Warneken, F., & Tomasello, M. (2012). Parental presence and encouragement do not influence helping in young children. *Infancy.* Advance Online Publication. doi: 10.1111/j.1532-7078.2012.00120.x

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