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Infants reason about deserving agents: A test with distributive actions



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ABSTRACT

The ability to attend to agents' deservingness and merit is a fundamental aspect of human moral judgment. To investigate the origins of this ability, we recorded 15- and 20-month-old infants' reactions to deservingness congruent and incongruent distributions performed towards pairs of helping and hindering agents. Twenty-month-old infants looked longer at equal distributions performed towards not equally deserving recipients than at equal distributions performed towards equally deserving agents and they looked equally long at equal and unequal deservingness congruent distributions. These results suggest that infants' are able, at least in some simple contexts, to take into account the valence of previous actions and expect agents to treat others in accord with their deservingness.

1. Introduction

The evaluation of distributive actions is a pervasive, core aspect of sociomoral cognition (Alexander, 1987; Almås, Cappelen, Sørensen, & Tungodden, 2010; Nichols, 2010). People react negatively to certain types of distributions and are willing to pay a cost in order to punish unfair distributors (Hsu, Anen, & Quartz, 2008). Is this aversion to unfair distributions a cultural acquisition or a biological adaptation? One way to make progress on this issue is to investigate how young children reason about fairness and how they acquire such ability.

Classic developmental theories emphasized the role of peer interaction in providing children with the experiences they need to construct norms that are seen as just by group members and to overcome selfish tendencies (Piaget, 1932; Damon 1975; Kohlberg, 1981; Siegal, 1982). Consistent with this view, a slow development of inequity aversion in school-aged children is a well-replicated finding, particularly when children have to pay a cost to act fairly (e.g., Fehr, Bernard, & Rockenbach, 2008; Rochat et al., 2009). School-aged children are willing to choose distributions that are costing to them in order to preserve fairness (Blake & McAuliffe, 2011; see also Shaw & Olson, 2012; Shaw et al., 2013). However, the prediction of a slow developmental course has been recently challenged by several infant studies.

Several recent studies reported that, by their second year, infants expect agents to distribute resources equally among identical recipients (Schmidt & Sommerville, 2011; Sloane, Baillargeon, & Premack, 2012; Sommerville, Schmidt, Yun, & Burns, 2013), prefer fair agents to unfair ones (Geraci & Surian, 2011; Surian & Franchin, 2017) and associate praise and admonishments to fair and unfair distributors (DesChamps, Eason, & Sommerville, 2015). Meristo and Surian (2013) found that 10-month-old infants looked longer at events in which an agent chose to reward an unfair distributor rather than a fair distributor, than to events in which the reward was given to the fair distributor, suggesting that infants assign a positive value to egalitarian distributions and expect that rewarding actions towards the distributors will follow a reciprocity principle (for a review see Baillargeon et al., 2015; see also Olson & Spelke,

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2008 and LoBue, Nishida, Chiong, DeLoache, & Haidt, 2011).

People often think that, in order to be fair, distributions should not always be equal, they should be proportional to relative merit as assessed, for example, by agents' contribution in achieving a common goal (Damon, 1975). Preschoolers prefer to distribute equally resources that are earned in collaborative work (Kanngiesser & Warneken, 2012; Warneken, Lohse, Melis, & Tomasello, 2011), but when the context prevents equal distributions, they take into account relative merit and prefer to give more to the hard-working recipient (Baumard, Mascaro, & Chevallier, 2012; see also Ng, Heyman, & Barner, 2011; McCrink, Bloom, & Santos, 2010).

While several recent works have revealed the sensitivity to merit in preschoolers, the evidence on infants is limited, at present, to just one study. Sloane et al. (2012) found evidence suggesting that 21-month-old infants expect resources to be distributed unequally following unequal work carried out to complete an assigned task. An experimenter asked to two confederates to tidy up the room by putting away some toys. In one event both agents worked equally to fulfill this request, while on another event, only one confederate worked on the task. Finally, equal distributions of stickers to both agents were performed and infants looked longer at the latter event than at the former, suggesting that they took into account agents' merit and did not expect an equal distribution in both cases.

People typically talk about merit when proportional comparisons are possible, for example when one compares the relative input, work or effort that different agents contributed to a joint action. This often leads to judgments that follow the equity principle. However, in a broader sense, merit refers to the quality of being entitled to reward, praise or gratitude. This is the sense expressed often by the term deservingness. In present study we use merit in this broader sense, rather than in its narrow meaning linked to equity judgments.

The results of the previous study on infants' sensitivity to merit (Sloane et al., 2012) raise two questions that we wish to address here. First, can 20-month-olds encode merit, or deservingness, only in contexts in which possible recipients are first asked explicitly to perform a task? If this were so, it is possible that infants, in Sloane et al. (2012) study, did not react to a violation of a fairness principle, but of a more specific norm concerning obedience or task fulfillment. Second, can infants link expectations about distributive actions to merit only when it is linked to relative amount of work or effort? Here we tackled these questions by presenting deserving and undeserving possible recipients that could not be distinguished in terms of effort and completion of an assign task, but rather because one of them had performed helping actions and the other hindering actions.

Several previous studies, as we have seen above, have shown that infants, all things being equal, prefer egalitarian distributing agents and expect egalitarian distributions. Some studies, however, also suggest infants' sensitivity to direct and indirect reciprocity principles. Evidence for this comes both from looking time measures (e.g., Meristo & Surian, 2013, 2014) and from more active measures, such helping actions (e.g., Dunfield & Kuhlmeier, 2010; Kuhlmeier, Dunfield, & O'Neill, 2014; Surian & Franchin, 2017). By following an indirect reciprocity principle, infants should not expect egalitarian distributions to be performed towards pairs of recipients formed by one deserving and one undeserving agent. No previous study has tested whether infants would, in such situations, be able to override their expectations of equal distribution, revealing that considerations based on merit or deservingness can trump the egalitarian principle (for a study on how racial or in-group factors can trump such a principle in generating infants' expectations and social choices see Burns & Sommerville, 2014).

Addressing this question will help us to understand whether and how infants' competences differ from those found later in life (Sommerville et al., 2013). In addition, the situation we presented was simplified in many respects compared to the procedure used by Sloane et al. (2012) and this allows us to test also whether sensitivity to deservingness appears before 20 months.

Infants assign a positive value to pro-social actions, such as helping, and a negative value to antisocial actions, such as hindering (Hamlin, Wynn, & Bloom, 2007; Hamlin, Wynn, & Bloom, 2010; Hamlin, Wynn, Bloom, & Mahajan, 2011; Kuhlmeier, Wynn, & Bloom, 2003). Hamlin et al. (2011) studied how infants react to the punishment directed towards helping or hindering agents. Eight-month-old infants saw short events involving helping or hindering puppets and then saw a test event in which two new agents either rewarded or punished the helper and the hinderer by giving or taking away a ball from them, respectively. When infants were encouraged to select one of these two new agents, they consistently chose the agent who rewarded the helper and punished the hinderer rather than the agent who did the opposite.

Here we presented potential recipients that first acted either pro-socially (the 'helpers') or antisocially (the 'hinderers'). Infants were then presented with either a pair of helpers or a pair consisting of one helper and one hinderer and were shown either an equal or an unequal distributive event. If infants see helpers but not hinderers as deserving reward, equal and unequal distributions shown to them turn out be either deservingness congruent or incongruent depending on the agents' previous helpful or hindering actions. If infants expect equality and neglect deservingness, they should look longer at the unequal distribution than at the equal distribution. By contrast, if they take into account recipients' deservingness, they should find the deservingness incongruent distributions more surprising than the deservingness congruent distributions.

2. Method

2.1. Participants

Participants were 64 healthy full-term infants (42 females), from Italian-speaking families (recruited at public nurseries of Rovereto, Italy). Infants were divided into two age groups, 15-month-olds ($N = 32$; 23 females; Mean age = 15 months, 12 days; Age range: 13 months, 9 days to 17 months, 10 days) and 20-month-olds ($N = 32$; 19 females; Mean age = 20 months, 5 days; Age range: 18 months, 17 days to 22 months, 8 days). Infants from each age group were randomly assigned to one of the three experimental conditions.

Another 11 infants were excluded from the study: six infants of the younger group due to fussiness ($n = 1$), did not follow at least

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