The development of intention-based sociomoral judgment and distribution behavior from a third-party stance

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ABSTRACT

The current study investigated children's intention-based sociomoral judgments and distribution behavior from a third-party stance. An actor puppet showed either positive or negative intention toward a target puppet, which had previously performed a prosocial or antisocial action toward others (i.e., children witnessed various types of indirect reciprocity). Children (3- and 5-year-olds) were asked to make sociomoral judgments and to distribute resources to the actor puppet. Results showed that 5-year-olds were more likely than 3-year-olds to be influenced by intention when they made their judgment and distributed resources. The target's previous actions affected only 5-year-olds' intent-based social preference. These results suggest that children's judgments about intent-based indirect reciprocity develop from ages 3 to 5 years.

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Introduction

The mechanism of indirect reciprocity and the ability to evaluate social behavior toward third parties are assumed to be the evolutionary and ontogenetic bases of human morality and the cooperative

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networks that characterize human societies (Fehr & Fischbacher, 2004; Fry, 2006; Gintis, Henrich, Bowles, Boyd, & Fehr, 2008; Henrich et al., 2005; Nowak & Sigmund, 2005). Moral thinking is argued to be the basis of children's interpretations of social interactions (Wainryb, Brehl, Matwin, Sokol, & Hammond, 2005). Indirect reciprocity of moral acts means acting positively toward those who are prosocial to third parties and/or negatively toward those who are antisocial to third parties (Nowak & Sigmund, 2005). Young children may engage in indirect reciprocation of moral acts; for example, 3.5- to 4.5-year-olds distribute more resources to a puppet that previously acted prosocially toward others than to a puppet that previously acted antisocially toward others (Kenward & Dahl, 2011; Olson & Spelke, 2008), 5-year-olds punish antisocial adults in an anonymous context (Kenward & Östh, 2015), and 6-year-olds even inflict costly third-party punishment toward unfair proposals (McAuliffe, Jordan, & Warneken, 2015). It appears that children's own moral and prosocial actions are affected by the recipient's previous (moral or immoral) behavior toward third parties.

People interact positively with helpful individuals and punish or interact negatively with harmful individuals (Fehr & Gachter, 2002). Selectively prosocial behavior based on the content of previous interactions is regarded as highly beneficial for humans and for human societies due to its effectiveness in maintaining cooperation between unrelated individuals (Dunfield & Kuhlmeier, 2010; Fehr & Fischbacher, 2004; Trivers, 1971). People are motivated to punish individuals who have been harmful in the past (Henrich, 2006). However, research on adults has found that, under some circumstances, harmful acts and antisocial individuals have not been punished but have instead been positively evaluated. Such positivity toward harmful individuals might be because this harmful behavior may be socially evaluated positively if it is directed toward those who are themselves wrongdoers (Hamlin & Wynn, 2011).

Social evaluation in humans often goes beyond analyzing the immediate and local valence of a behavior directed toward another, whereas previous evaluations of a target, which is the global valence of the action, also need to be considered (as illustrated by the common phase "the enemy of my enemy is my friend") (Aronson & Cope, 1968; Hamlin, Wynn, Bloom, & Mahajan, 2011; Heider, 1958). Even infants (8 months old) can understand that the meaning of an act is influenced not solely by its own value but also by that of its target (Hamlin et al., 2011). Hamlin et al. (2011) found that 8-month-olds selectively preferred individuals who had acted positively toward a prosocial person and who had acted negatively toward an antisocial person. Infants (10 months old) look shorter when the fair distributor is harmed by a third party's antisocial actions compared with when the unfair distributor is harmed, suggesting that they are able to morally distinguish individuals according to their distribution performance (Meristo & Surian, 2013; Meristo & Surian, 2014). Dahl, Schuck, and Campos (2013) found that 17- and 22-month-old infants equally helped actors who had previously acted prosocially or antisocially, whereas 24-month-old toddlers preferred to help the prosocial actor. These studies mainly focused on infants' social preference and social behavior based on their understanding of actions.

However, as children grow up, they make mature moral judgments based not only on the outcome of actions but also on the underlying intention (Cushman, 2008; Karniol, 1978; Piaget, 1932/1997; Turiel, 2006). Although the role of outcome in the identification of good social partners is mainly emphasized in traditional models of reciprocity (Hamilton, 1964), others have argued that reciprocity is also influenced by the intention behind an individual's previous behaviors (Dunfield & Kuhlmeier, 2010; Falk & Fischbacher, 2006; McCabe, Rigdon, & Smith, 2003). It is important for individuals to predict others' future behaviors by tracking others' valenced mental states. It seems reasonable to believe that individuals who currently display negative intention are more likely to lead to negative outcomes in the future than those who currently demonstrate positive intention (Hamlin, 2013).

It is argued that intent-based judgments first emerge in children's evaluation of naughtiness and subsequent judgments of deserved punishment (Cushman, Sheketoff, Wharton, & Carey, 2013). In making moral judgments, 3-year-olds are sensitive to the intention behind an action when stimuli are carefully controlled to remove confounding factors and when the intentional information is explicit and salient (Armsby, 1971; Nelson, 1980; Nobes, Panagiotaki, & Pawson, 2009; Siegal & Peterson, 1998; Yuill & Perner, 1988). A rephrased question is also beneficial by making 4- to 8-year-olds more sensitive to intention (Nobes et al., 2009). It is argued that 3.5-year-olds make moral judgments according to any negative aspects (either negative intention or negative outcome), whereas in the neg-