Cognition 167 (2017) 151–159

Contents lists available at ScienceDirect

Cognition

journal homepage: www.elsevier.com/locate/COGNIT

Original Articles

Children are sensitive to norms of giving

Katherine McAuliffe [a,b,*], Nichola J. Raihani [c], Yarrow Dunham [b]

[a] Department of Psychology, Boston College, Chestnut Hill, MA, United States
[b] Department of Psychology, Yale University, New Haven, CT, United States
[c] Department of Experimental Psychology, University College London, London, United Kingdom

ARTICLE INFO

Article history:
Received 6 February 2016
Revised 17 December 2016
Accepted 8 January 2017
Available online 24 January 2017

Keywords:
Generosity
Cooperation
Dictator game
Norms
Social cognitive development

ABSTRACT

People across societies engage in costly sharing, but the extent of such sharing shows striking cultural variation, highlighting the importance of local norms in shaping generosity. Despite this acknowledged role for norms, it is unclear when they begin to exert their influence in development. Here we use a Dictator Game to investigate the extent to which 4- to 9-year-old children are sensitive to selfish (give 20%) and generous (give 80%) norms. Additionally, we varied whether children were told how much other children give (*descriptive norm*) or what they should give according to an adult (*injunctive norm*). Results showed that children generally gave more when they were exposed to a generous norm. However, patterns of compliance varied with age. Younger children were more likely to comply with the selfish norm, suggesting a licensing effect. By contrast, older children were more influenced by the generous norm, yet capped their donations at 50%, perhaps adhering to a pre-existing norm of equality. Children were not differentially influenced by descriptive or injunctive norms, suggesting a primacy of norm content over norm format. Together, our findings indicate that while generosity is malleable in children, normative information does not completely override pre-existing biases.

1. Introduction

People everywhere engage in costly prosocial behavior, ranging from every-day acts like volunteering time at community events to more tangible gestures like giving away a proportion of one's earnings to charity. Indeed, according to Giving USA, in the last year people in the USA alone gave an estimated $358.38 billion dollars to charity (more than $1000 per adult) highlighting the economic importance of understanding the mechanisms supporting generosity in humans.

A great deal of work by economists and psychologists has shown that generous behavior can be readily elicited under laboratory conditions. The most widely used task for capturing generosity in the lab is the Dictator Game (Kahneman, Knetsch, & Thaler, 1986). In this game, one person—the dictator—is given a sum of money and is asked to allocate the endowment between themselves and a passive recipient. While traditional economic models predict that dictators will keep the entire endowment for themselves because any donation necessarily reduces the dictator's payoff, dictators typically share a portion of their endowment with partners (Engel, 2011). A further striking finding from work on the Dictator Game is that the *amount* shared with partners shows dramatic variation across different societies (Henrich et al., 2005). For instance, in one cross-cultural investigation of Dictator Game giving, Hadza participants offered a 20% share on average, while Tsimane participants typically offered ten percent more (Henrich et al., 2005). In these two societies, few people kept everything for themselves, in contrast to American participants, many of whom refused to share at all (Camerer, 2003). This cultural variation demonstrates that while generosity may be a common human behavior, what constitutes generosity is profoundly shaped by local norms.

An influential approach to addressing how norms affect behavior begins by distinguishing between two different types of normative information, what we refer to here as *norm format. Descriptive norms* describe what others are doing, while *injunctive norms* describe what ought to be done to earn social approval (Cialdini, Reno, & Kallgren, 1990). Descriptive and injunctive norms have garnered a great deal of attention in social psychology and each appears to influence people's behavior in a range of social situations including littering (Cialdini et al., 1990), taking resources from a national park (Cialdini et al., 2006) and household energy consumption (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). Theoretically, the distinction between descriptive and injunctive norms may be further explored by placing it in a more

* Corresponding author at: Department of Psychology, Boston College, Chestnut Hill, MA, United States.
E-mail address: katherine.mcauliffe.2@bc.edu (K. McAuliffe).

http://dx.doi.org/10.1016/j.cognition.2017.01.006
0010-0277/

evolutionarily informed framework, namely by thinking of it as analogous to the distinction between horizontal and oblique transmission (Richerson & Boyd, 2005; Cavalli-Sforza & Feldman, 1981). While this framework must be qualified by acknowledging that both descriptive and injunctive norms can, in principle, be transmitted horizontally or obliquely, this can serve as a useful foundation for thinking about which models are most relevant for children at different stages in development. Horizontal transmission, as the name implies, is transmission of information between peers. One central route for horizontal transmission is direct observation of statistical tendencies, i.e., the learning of descriptive norms of who generally does what. Oblique transmission involves acquiring skills and knowledge, including explicit rules of conduct, i.e. injunctive norms. Oblique transmission is importantly distinct from vertical transmission, which involves learning specifically from parents. While much early learning happens from parents, children begin to increasingly rely on horizontal and oblique transmission as they age (Hewlett, Fouts, Boyette, & Hewlett, 2011). However, the extent to which children differentially weigh normative information from peers versus adults remains unclear. An emerging picture from developmental work suggests that young children have an initial tendency to rely on adults for social information (Jaswal & Neely, 2006; Rakoczy, Hamann, Warneken, & Tomasello, 2010), which hints at a particular sensitivity to injunctive norms. By contrast, older children are thought to be particularly sensitive to peer influence (Brown, 1990), pointing to the importance of descriptive norms later in development. However, it is not yet know if these same patterns hold when examining children's adherence to norms of generosity.

Some recent work has, however, investigated norm format in the context of adults' giving in the Dictator Game (Bicchieri & Xiao, 2009; Raihani & McAuliffe, 2014). Bicchieri and Xiao (2009) found that fair behavior was more affected by participants' expectations of what others give in the dictator game (a descriptive norm) as opposed to expectations of what ought to be given (an injunctive norm). However, Raihani and McAuliffe's (2014) results did not accord with these findings. They presented dictators with a descriptive norm, an injunctive norm or no normative information. Within norm format, participants saw either a stingy norm (give at least 20%) or a generous norm (give at least 50%). They found that people were sensitive to both norm content (stingy vs. generous) as well as norm format (injunctive vs. descriptive). Specifically, people gave more when presented with the generous norm than the stingy norm, and injunctive norms increased the propensity to give at least the target amount, whereas descriptive norms did not. Minimally, results from these two studies show that giving behavior is flexible: people's generosity is susceptible to the power of suggestion. However, the extent to which giving behavior is differentially influenced by descriptive versus injunctive norms remains unclear, and in particular, little is known about how or even whether children are sensitive to different norm formats.

Taken together, previous studies of Dictator Game giving in adults have clearly demonstrated that generosity shows natural variation across cultures, and suggest that the transmission of normative information is one potential mechanism by which that variation can be maintained. However, the developmental roots of normative influence are as yet unclear. In particular, it remains possible that children hold strong pre-existing biases, for example towards selfishness (e.g., Benenson, Pascoe, & Radmore, 2007) that limit the influence of normative information earlier in development. Alternatively, the nature of selfishness versus generosity might itself be open to revision via normative information from early childhood, in which case, children, like adults would be sensitive to locally presented norms. Addressing these issues is critical to understanding how and when cultural variation emerges, as well as how and when we might intervene on developing notions of fairness and generosity.

Broadly past work on children's donations in the Dictator Game demonstrates that, from relatively early in development, children are motivated to share with others, even when doing so comes at a personal cost. Children as young as four willingly offer resources to peers across a variety of experimental games (Fehr, Bernhard, & Rockenbach, 2008; House, Henrich, Brosnan, & Silk, 2012; Moore, 2009). Of particular relevance here are a number of studies that have examined children's sharing behavior using different versions of the Dictator Game (Benenson et al., 2007; Blake, Corbit, Callaghan, & Warneken, 2016; Blake & Rand, 2010; Cowell et al., 2016; Gummerum, Hanoch, Keller, Parsons, & Hummel, 2010; Rochat et al., 2009; Smith, Blake, & Harris, 2013). While results from these studies are not entirely consistent, several trends have emerged: First, young children tend to show a selfish bias that is attenuated with age (Benenson et al., 2007; Cowell et al., 2016; Rochat et al., 2009). Second, older children tend to be more equitable than younger children (Fehr et al., 2008; Smith et al., 2013). Third, children rarely give more than an equal split (Benenson et al., 2007; Blake & Rand, 2010).

In parallel to work on children's emerging prosociality, other work has shown that an understanding of norms is present from early in ontogeny. For instance, Powell and Spelke (2013) showed that even infants expect similar individuals to behave in the same way, suggesting that humans are predisposed to attend to group norms and that these norms guide expectations of how individuals should act. These expectations appear to persist over the course of ontogeny and drive children to intervene to prevent norm violations in others (Rakoczy & Schmidt, 2012; Rakoczy, Warneken, & Tomasello, 2008). More specifically, children as young as two years of age respond to norm violations (Rakoczy, Warneken, & Tomasello, 2008), and by three children explicitly correct others' behavior (Rakoczy et al., 2008) and are particularly likely to enforce norm violations committed by an in-group member (Schmidt, Rakoczy, & Tomasello, 2012).

Another recent line of work has begun to investigate how children's understanding of norms influences their prosocial behavior, and begins to explore potential divergences between understanding of what one ought to do (injunctive information) and expectations about what one will do (descriptive information). For instance, Smith et al. (2013) showed that American children between the ages of three and eight understand that they ought to share equally and even expect others to share equally with them. Despite this understanding of what they should do, however, it is not until around the age of seven that children actually begin to adhere to this norm of equality. Blake, Piovesan, Montinari, Warneken, and Gino (2015) found a similar gap between what children think they should do and what they actually do and showed that children with better self-regulation close this gap faster than those with poor self-regulation. Finally, in a cross-society study of prosocial behavior, House et al. (2013) found that children begin to adopt adult-typical patterns of prosocial behavior around middle childhood, suggesting it is not until this period in ontogeny that children begin to internalize their society's norms of generosity. Together, these studies suggest that from early in development children become aware of norms of giving in their respective societies and that they ultimately follow those norms. However, two key questions remain unanswered, and are the focus of the present study. First, does norm format affect children's generosity? That is, will children be differentially influenced by norms about what their peers are doing (descriptive) versus norms about what they ought to do (injunctive)? Second, are children differentially influenced by norms with different content, such as those that prescribe selfishness versus generosity? We address these questions by