Journal of Experimental Child Psychology 116 (2013) 186–198

Contents lists available at SciVerse ScienceDirect

Journal of Experimental Child Psychology

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

Two and a half-year-old children are prosocial even when their partners are not

Carla Sebastián-Enesco [a,b,*], María Victoria Hernández-Lloreda [a,c], Fernando Colmenares [a,b,*]

[a] Grupo UCM de Estudio del Comportamiento Animal y Humano, Facultad de Psicología, Universidad Complutense de Madrid, 28223 Pozuelo de Alarcón, Madrid, Spain
[b] Departamento de Psicobiología, Facultad de Psicología, Universidad Complutense de Madrid, 28223 Pozuelo de Alarcón, Madrid, Spain
[c] Departamento de Metodología de las Ciencias del Comportamiento, Facultad de Psicología, Universidad Complutense de Madrid, 28223 Pozuelo de Alarcón, Madrid, Spain

ARTICLE INFO

Article history:
Received 27 April 2012
Revised 16 May 2013
Available online 22 June 2013

Keywords:
Prosocial behavior
Other-oriented preferences
Contingent reciprocity
Prosocial Game
Toddlers
Developmental and comparative perspectives

ABSTRACT

A total of 33 2.5-year-old toddlers were tested for proactive and selective prosocial responding in an iterated Prosocial Game with unfamiliar adult partners who were communicatively neutral and alternated their roles as actors and recipients every other trial. When children were actors, they were required to choose, at no cost to themselves, between a selfish option that delivered a reward to them only (1/0) and a prosocial option that delivered identical rewards to both themselves and their partners (1/1). When adult partners were actors, they consistently behaved prosocially (1/1) or selfishly (1/0) over 10 alternating trials, depending on test condition. An additional 17 children were used as a recipient-absent control group to test for self-oriented versus other-oriented prosocial preferences. This study shows that by 2.5 years of age, and in the particular context of the task administered, toddlers can display proactive, other-oriented prosocial behavior, but their prosocial responding is indiscriminate in that they fail to respond contingently to their partners' prosocial or selfish behavior in the previous trials. These findings lend further support to the view that human prosociality is in place early in development as a basic tendency to be nice to others. This inclination may be so strong that not even partners who are communicatively neutral or repeatedly selfish toward children can erode it. They also suggest that this precocious proactive prosociality may be independent of

* Corresponding authors at: Departamento de Psicobiología, Facultad de Psicología, Universidad Complutense de Madrid, 28223 Pozuelo de Alarcón, Madrid, Spain.
E-mail addresses: carla.sebastian@gmail.com (C. Sebastián-Enesco), colmenares@psi.ucm.es (F. Colmenares).

0022-0965/$ - see front matter
http://dx.doi.org/10.1016/j.jecp.2013.05.007

reciprocity in terms of both its developmental schedule and psychological scaffolding.

Introduction

The hypertrophied sociality deployed by humans is grounded on unique forms of other-oriented prosocial behavior; thus, only humans cooperate with strangers and even anonymous partners, reward cooperators and punish defectors, reciprocate prosocial and antisocial actions, and reject advantageous inequity (Bowles & Gintis, 2011; Fehr & Fischbacher, 2003; Nowak & Highfield, 2011; Silk & House, 2011; Tomasello, 2009; Tomasello & Vaish, 2013). Indeed, *prosociality*, broadly defined as the willingness to behave so as to benefit others, and *reciprocity*, broadly defined as the propensity to treat others in the same positive or negative way as others have previously treated you, are thought to be two core elements of the scaffolding that sustains cooperation in human social groups (Fehr, Fischbacher, & Gächter, 2002; Tomasello, 2009). Although these constructs have been tackled by child psychologists for decades (e.g., Eisenberg, Fabes, & Spinrad, 2006; Hay, 1994; Hay & Cook, 2007), recently there has been a flurry of renewed theoretical and empirical interest to elucidate the developmental and evolutionary origins of the behaviors subsumed under these two umbrella terms and to uncover their underlying psychological processes (e.g., Brosnan, Salwiczek, & Bshary, 2010; Jaeggi, Burkart, & Van Schaik, 2010; Silk & House, 2011; Warneken & Tomasello, 2009a).

There is wide consensus that prosocial behavior is a broad category encompassing several domains of activity, including aiding, collaborating, sharing, informing, and comforting, which may emerge at different times, follow different developmental schedules, and be heterogeneous in terms of its social cognitive constituents and environmental influences (Dunfield & Kuhlmeier, in press; Thompson & Newton, 2013; Warneken & Tomasello, 2009b). One influential developmental model holds that children are naturally prosocial and that later on this initially indiscriminate prosociality is shaped by direct social experiences and indirect instruction and then eventually becomes selectively directed at appropriate partners (Hay, 1994; Hay & Cook, 2007; Tomasello, 2009; Warneken & Tomasello, 2009a). In addition, appropriate partners may well be those who have provided something valuable to the self in previous interactions or are likely to do so in the future. The major goal of the study presented here was to contribute to the ongoing debate and accumulating body of developmental data on the spontaneity and selectivity of prosocial responding by examining the prosocial behavior of 2.5-year-old toddlers in an iterated Prosocial Game with unfamiliar adult partners who were communicatively neutral and alternated their roles as actors and recipients every other trial. More specifically we investigated whether, at this age, children can display (a) other-oriented prosocial preferences with partners who do not ask for the reward (i.e., spontaneity) and (b) contingent reciprocity, that is, treating others as these individuals have treated them in previous interactions (i.e., selectivity).

In one of the variants of the Prosocial Game (Fehr, Bernhard, & Rockenbach, 2008), also dubbed the Prosocial Test (Silk & House, 2011) or the Prosocial Choice Test (Horner, Carter, Suchak, & de Waal, 2011), there are two incumbent participants, an actor, and a recipient in a face-to-face setting, and only the actor is required to make a choice between two fixed resource allocation options. One of the options, the *prosocial choice*, delivers identical rewards to both participants (1/1 payoff), whereas the other option, the *selfish choice*, delivers a food reward to only the actor (1/0 payoff). Ideally, and typically, a nonsocial control condition in which no recipient is present to receive rewards is also included. This partner-absent condition is critical for assessing whether the actor's choice, be it prosocial or selfish, is actually driven by other-regarding versus self-regarding preferences. This paradigm, originally used by Silk and colleagues (2005) for investigating prosocial, other-regarding preferences in paired chimpanzees (see also Vonk et al., 2008) and by Brosnan and colleagues (2009) for studying contingent reciprocity in chimpanzees, was later adapted by Brownell, Svetlova, and Nichols (2009) in a study of no-cost sharing in 18- to 25-month-old children and, more recently, by House and colleagues in studies on the ontogeny of prosociality (House, Henrich, Brosnan, & Silk, 2012) and contingent reciprocity (House, Henrich, Sarnecka, & Silk, 2013) in children between 3 and 8 years of age.