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Early prosocial development across cultures

Tara Callaghan¹ and John Corbit²

Human prosociality is ubiquitous, even though it may be manifested differently across cultures. Low cost helping and sharing emerge early in development, and at similar levels, across cultures having vastly different sociocultural niches. Developmental trajectories for costly sharing diverge across cultures around middle childhood, in line with differences in the sociocultural niches that children experience. Cultural developmental research has focussed primarily on the emergence and development of prosocial behaviour, and would benefit from an examination of the interplay between psychological (cognitive, motivational) and sociocultural (norms, developmental niche) foundations over ontogeny.

Addresses

¹St. Francis Xavier University, Canada²Simon Fraser University, CanadaCorresponding author: Callaghan, Tara (tcallagh@stfx.ca)**Current Opinion in Psychology** 2018, **20**:102–106This review comes from a themed issue on **Early development of prosocial behavior**Edited by **Felix Warneken** and **Robert Hepach**<http://dx.doi.org/10.1016/j.copsyc.2017.07.039>

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Human cooperation is ubiquitous, and is sustained largely through our ability and motivation to act prosocially towards others. The pervasiveness of prosocial behaviour across human societies begs two important questions: To what degree are prosocial behaviours a natural human capacity? How does early experience foster their development? Here, the focus is on prosocial behaviour, where one individual acts to benefit another, often at a personal cost [1]. There is a rich contemporary record of ontogenetic and phylogenetic research investigating the origins of prosociality, and recently researchers have extended their lens to non-Western cultural contexts. A cultural developmental perspective is essential to deepen our understanding of the interplay of psychological and socio-cultural influences on human prosociality [2–6].

Developmental evidence reveals that human prosocial behaviour is versatile and emerges early in development [7], comparative research demonstrates that basic forms of

helping exist in non-human primates [1], and cultural comparisons reveal compelling diversity in adult cooperation [8]. Several theoretical perspectives have been proposed. Humans are biologically predisposed towards prosociality, and social factors shape its development once it emerges [7,9]. Toddler prosociality emerges out of earlier social emotional relationships between infants and caregivers [10], which may include direct parental scaffolding of prosociality beginning in infancy [11]. Human-unique social norms, internalized over a lengthy period of development, account for cultural diversity in adult behaviour [8].

Psychological accounts of prosocial development have primarily examined the underlying social cognitive and motivational mechanisms. These accounts provide evidence for the importance of several social cognitive mechanisms, including moral cognition, parental scaffolding, and social learning skills [11–15]. In addition, a number of motivational factors, including conformity, empathy, affiliation, benevolent concern, and warm glow have been found to be influential [16–22]. Examining evidence for cultural similarity and diversity in the impact of these mechanisms over ontogeny can help shed light on the theoretical debates. For example, regularity in the onset of social cognitive precursors to prosociality support biological predisposition accounts ([2,7]; but see [23] for an alternative perspective), while diversity in developmental outcomes highlights the importance of examining sociocultural factors (e.g. developmental niche, social norms, socialization; see [8,24,25]). To date, cultural developmental research has primarily tracked the emergence and trajectory of helping and sharing [2,26*,27,28], with only a few studies [29*,30,31**] examining the psychological and cultural mechanisms driving development towards similar or diverse outcomes across cultures.

Helping emerges early and at similar levels across diverse cultures

When helping others comes at a relatively low cost (i.e. does not involve loss of a material possession), toddlers' help others at similar ages and levels across cultures having vastly different early social environments [2,32]. In a study of instrumental helping and collaboration across three societies (rural India, Peru, Canada), toddlers in all three societies were able to infer and respond appropriately to the needs of others in the helping task, and were sensitive to the disruption of collaborative activities [2]. Importantly, social cognitive prerequisites (i.e. intentional understanding, joint attention, perspective taking) to helping and cooperation also emerged within the same age range across cultures in this study.

In other research, parental socialization goals (SGs) and scaffolding practices (SPs) were related to a general measure of prosociality [32]. Autonomous SGs (Germany, urban Brazil) were linked to an emphasis on personal choice and discursive SPs, whereas relational SGs (rural Brazil, India) were associated with emphasis on social obligation and assertive SPs [31^{**},33]. Even though cultural values differentially influenced how parents socialized their children, helping emerged at similar ages and levels.

In contrast to low-cost instrumental helping, Svetlova, Corbit and Callaghan (n.d.) found that costly helping differentially affected toddlers' motivation to help across diverse cultures (rural India, Peru, Canada). Levels of helping an experimenter in Canadian and Peruvian toddlers (18 and 30 months) increased with age in both costly (i.e. gave item they owned) and low cost (i.e. gave experimenter's item) conditions. However, Indian toddler's helping was lower in costly conditions, and decreased with age. Indian toddlers owned very few belongings (less than 2), suggesting that toddler's costly helping may depend on culture-specific experiences with ownership. Indeed, children's understanding of ownership may engender motivational conflict in costly helping (i.e. between motive to help and to possess), and cultural differences with ownership may influence the relative level of conflict [34]. Cultural differences in costly helping highlight the importance of understanding how social ecologies might differentially influence psychological mechanisms, in this case motivational ones, to impact the course of development.

Sharing and fairness concerns diverge across cultures by middle childhood

Sharing appears to be a common feature of human societies, yet adult research shows significant cultural diversity in fairness [8]. When children are presented with control over resources and given a single opportunity to share with another individual, young children (3 years) from highly contrasted societies tend to self-maximize and older children (5–8 years) approach equal sharing in some groups [28,29^{*},30]. Interestingly, this trend from self-maximizing to equality was also reported for Tibetan children attending a monastic school infused with explicit teachings of compassion [35^{*}].

Cultural diversity in children's sharing behaviour becomes more pronounced around middle childhood. In one study, German children (4–7 years) were found to share more with friends than non-friends, whereas Ugandan children showed no preference [36]. House et al. [27] presented children (3–14 years) and adults in six societies with a prosocial choice (costly vs. non-costly). When sharing was non-costly, prosocial choices increased steadily across development in all societies. When sharing was costly, children's prosocial choices showed a

U-shaped trajectory, diminishing until they approached middle childhood, when their behaviour shifted. Importantly, it shifted to align with adult behaviour in their society, which varied greatly, supporting the view that children begin to adhere to the *social norms* of their groups at this age [8].

If norms are influential, then what is the developmental process through which they influence sharing? Imitative learning is one candidate, and parents serve as influential models in most societies (for the role of peers, see [37]). One measure of sharing that has been adapted for use with children is the dictator game (DG), where participants are given several items and told they can keep them all or share some with another person. In a study using parent confederates, children (ages 3–8 years, rural India, urban US) first witnessed parental behaviour that was either stingy or generous in a DG and then anonymously shared with another child [29^{*}]. Indian children followed both the generous and stingy models from an early age (5 years) with high fidelity, with the generous model's influence increasing over age. US children only followed the stingy models, and did so at the same levels across all ages. Although not directly tested, diverse SGs (India – obedience, US – autonomy) may influence the fidelity by which norms are acquired.

Studies of inequity aversion provide additional evidence that middle childhood is a turning point for cultural diversity. Inequity can either favour one's partner in a division of resources (disadvantageous inequity, DI), or oneself (advantageous inequity, AI). The emergence of DI and AI was tracked in seven societies using the Inequity Game, where one child decided whether to accept or reject an experimenter's allocations between them and a partner [26^{**}]. Children showed DI at high rates relatively early in development (4–8 years) across all societies tested. However, AI emerged in only three of seven societies (US, Canada, Uganda), and not until middle childhood (9–10 years). Shaw and Olson [38] used a different measure of inequity aversion, where children observed an experimenter dividing resources equally between two agents until there was one "extra" item left over, and had to decide whether to distribute this item to one of the individuals (creating inequity) or discard the "extra" resource (maintaining equity). They reported that 6- to 7-year-old children across culturally diverse groups (urban US, lower SES South Africa) showed inequity aversion. However Paulus [39] did not find this form of inequity aversion in a low SES Ugandan sample. Taken together, the evidence suggests that children from diverse cultures share an aversion to receiving fewer resources than a peer, but differ in their aversion to getting more than others.

Why are children in some societies, especially those where generosity and relational goals are highly valued

(e.g. India), not showing AI? Equality and generosity have distinct motivation underpinnings, and a recent study conducted by Corbit and colleagues [40] suggests that collaboration may foster fairness concerns, independently of generosity. Children in two societies, one where children had shown AI in a previous study and one where they had not (Canada, India), were given the opportunity to earn resources either collaboratively or individually, and the resources were then used in the Inequity Game. When children worked collaboratively to earn the resources, but not when they worked independently, children in both societies showed AI in middle childhood. A concern for equality thus appears to be an important fairness standard in some cultural groups, particularly in a collaborative context.

Recent research findings indicate that several other contextual factors differentially impact children's sharing across societies. Cultural differences in perceptual processing (i.e. context-dependent vs. context-independent) emerge around five years [41], and appear to influence fairness [42]. German and Indian children's (4–5 years) greater generosity in a DG was associated with greater responsiveness to fear vs. happy faces, but only Indian children were impacted by the context in which fear faces were presented. Children also consider merit in sharing decisions in Western [43,44], but not in all, societies. Children (4–11 years) from Germany divided according to merit (equity), while those from a gerontocratic status-based society (Kenya) did not, and children from an egalitarian society (Namibia) divided resources most equally [45*]. Diverse socialization goals may underlie these differences, but were not assessed.

Children's sharing is impacted by the opportunity for repeated sharing with one's partner (i.e. reciprocity) [46,47]. Reciprocal sharing was reported to emerge around middle childhood in both US and Fiji [48**] using a multiple round DG. In contrast to Samoan children of the same age, 5-year-old US children paid a cost to punish a selfish puppet in a repeated round sharing game [49]. Reciprocal turn taking (i.e. with a tool needed to obtain prizes), differed across cultures and mapped onto society-specific parental and child (5–10 years) views on reciprocity [50]. German children assiduously took turns with the tool resulting equal distributions, whereas children from two Kenyan societies mostly monopolized the tool on a first-come first-served basis. Motivational (delay of gratification) and cognitive (prospection) mechanisms are important foundations for reciprocity [46,47], but have not yet been assessed across cultures.

Conclusions and future directions

Cultural developmental research on prosocial behaviour has begun to shed some light on the theoretical debates. While it is possible that toddler prosocial behaviour is rooted in the highly scaffolded socioemotional

interactions of infancy [10,11], we need cultural comparisons of this early period of development. The cultural developmental evidence does suggest that socialization shapes, rather than elicits, human prosocial behaviour over the course of ontogeny [9]. When prosociality has a relatively low cost, its emergence (as measured in age or level) is stable across developmental niches [2,32]. Yet, differences across cultures in prosocial behaviour are manifested under costly conditions later in development, particularly with costly helping and, later still, with sharing [26**]. Diverse socialization approaches most likely play a role in the shaping of distinct outcomes (and developmental paths) across cultures, but other ecological factors may also play a role. We know little about the interplay of these factors with psychological mechanisms. Cultural developmental research can help to address this gap.

To deepen our knowledge of prosocial development, we advance several ambitious recommendations for a cultural developmental research agenda. First, longitudinal research will help to establish that presumed psychological foundations are indeed universally foundational. Second, investigating social-cognitive and motivational factors within the same cultures will disentangle their individual and interactive contributions. From this base, the influence of sociocultural factors will be more informed. Third, a two-tiered approach that combines ethnographic with process-driven empirical studies is crucial (e.g. [2,32]). Even when overarching cultural values and practices regarding prosociality have been reported for a society, it cannot be presumed that they are uniformly applicable for parents in a sample. Fourth, when ethnographic methods are incorporated into empirical designs the opportunity to track links between broader societal factors (e.g. parental SGs and SPs) and individual differences in child outcomes is afforded (e.g. [31**]). Finally, as field sites become more established, the social ecologies of contemporary societies will come into sharper focus, enabling researchers to contrast those that can most effectively answer their research questions. Combining research efforts across field sites within and between geographic regions (several exemplars exist [8,26**,30]) will accelerate the research agenda. Collaboration may be the key to solving the complex puzzle of human prosocial behaviour.

Conflict of interest statement

Nothing declared.

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