



Baby Altruists? Examining the Complexity of Prosocial Motivation in Young Children

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The contributions of these studies to our understanding of early prosocial motivation are discussed in the context of the broader research literature in this field. We consider first whether different forms of prosocial behavior (e.g., helping, sharing, and empathic assistance) reflect a core prosocial disposition in the early years. The methodological challenges of assessing prosocial behavior in very young children are considered next. We then discuss the origins of prosocial motivation in the early years, focusing on developing understanding of others' goals and intentions, the emergence of sensitivity to equity, emotion understanding, and other conceptual advances. We conclude with suggestions for future research directions for this exciting field of study.

This remarkable collection of articles draws our attention to early prosocial behavior and its origins. Developmental researchers have long known that very young children can act prosocially (e.g., Hay, 1979; Rheingold, Hay & West, 1976). What is distinctive about recent research on this topic is how it derives from, and informs, our understanding of developing social cognition. As reflected in these articles, researchers study early prosocial behavior as a manifestation of shared intentional states, expectations for fairness, understanding of goals, and participation in shared activity that contributes to these conceptual achievements. In doing so, these contributors also raise broader questions about how very young chil-

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dren judge others' actions, the emergence of intuitive morality, and the social influences associated with the disposition to assist others (Thompson, in press).

The articles in this special section also wed attention to the development of prosocial behavior with interest in the origins of individual differences in prosocial motivation. Both are important because early helping, sharing, and cooperation are tentative, situational, and provisional. Although this conclusion depends partly on how prosocial behavior is measured, the articles in this issue are representative of the field in reporting that infants and toddlers vary significantly in their assistance in different tasks and contexts. Thus, early prosociality is not routine, and this conclusion compels attention to task demands and situational incentives as well as to broader questions concerning the development of individual differences in prosocial motivation. For those who are interested in the development of socially constructive behavior, this field offers fascinating terrain for further study.

In this short commentary, our goal is to highlight and expand on the contributions of the authors of these articles. We begin with a conclusion that is reflected in several of these articles: prosocial behavior is not just one thing, but a diverse range of responses that may—or may not—be linked to a common core disposition to assist another. This leads us to the challenges of assessing prosocial behavior in very young children who cannot verbally divulge their motivations to assist or their representations of circumstances of need, and we offer some methodological comments. We turn next to the core interest of many researchers: understanding the developmental processes underlying the emergence of prosocial behavior in the early years. In this section, we highlight three important social cognitive constituents of prosocial motivation identified in these articles. We conclude with some suggestions for future research directions.

MULTIDIMENSIONALITY OF PROSOCIAL BEHAVIOR

Prosocial behavior consists of actions intended to assist another person. As these reports show, instrumental helping, informational assistance, sharing, comforting or empathic helping, and altruistic (or sacrificial) acts are all prosocial behaviors. Each of these manifestations of prosocial motivation entails distinct emotional, social-cognitive, self-regulatory, motivational, and other psychological constituents, and the relevance of these constituents depends on the demands of the specific situation. For example, emotion understanding is typically more relevant to empathic responding than to instrumental helping, while the latter depends more on inferences of the recipient's goals and intentions.

Is there a core disposition to assist others that is at the heart of these different forms of prosocial behavior? The assumption that some people are more dispositionally oriented to assist others is at the root of much research in this field, and there is empirical support for this view even from research with very young children (e.g., Hay, 1979). A developmental orientation, however, sensitizes researchers to the different requirements of alternative kinds of prosocial behavior, especially for very young children who are developing the basic social, emotional, and cognitive capacities required to decipher another's need state, interpret another's emotional reactions, and generate a solution to another's predicament. Perhaps for this reason, Brownell, Svetlova, Anderson, Nichols, and Drummond (in press) and Sommerville, Schmidt, Yun, and Burns (in press) each found modest or nonsignificant associations among the multiple prosocial tasks they assessed in 1- to 2 1/2-year-olds. Different forms of prosocial assistance require different conceptual skills that are emerging during this early period of development. Moreover, the ancillary influences highlighted by Sommerville et al. (in press) are also important to the consistency of prosocial behavior, such as the familiarity of the recipient, the situational context, and the temperamental fussiness. These influences can alter performance in prosocial tasks in idiosyncratic ways. When an unfamiliar adult drops a marker on the floor and reaches for it, for example, a toddler's response can be influenced by the familiarity of the adult, the reactions of others (including mother), the amount of direct interaction with the recipient required to provide assistance, the previous behavior of the recipient, how the child is feeling at the moment, and other influences. It might be unreasonable to expect reliable individual differences in prosocial behavior across different tasks, at least for very young children.

This conclusion has been advanced most recently by Dunfield, Kuhlmeier, O'Connell and Kelly (2011), whose study also underscores the methodological issues that are relevant to assessing individual differences in prosocial motivation. These researchers observed 18- and 24-month-olds in experimental and control assessments of helping, sharing, and comforting with an adult experimenter. None of the toddlers provided comforting, and although children reliably helped and shared more in experimental conditions (when the adult indicated need) than in control conditions, there was no consistency in children's responses across the remaining two tasks. Although it is possible to conclude that there are no reliable differences in prosociality by the second birthday, as the authors did, it is important to recognize that the toddlers in this study were provided with only one trial of each task and had to respond within a 10-second window. These requirements may have undermined the occurrence of comforting that (as the authors recognized) often requires a longer

response time for young children and may have made it more difficult for some children (e.g., those who are behaviorally inhibited) to respond at all. As Sommerville et al. (in press) point out, multiple trials of prosocial tasks and careful attention to the nature of task demands can help to ensure that assessments appropriately index very young children's capabilities.

The issue of whether reliable individual differences in prosocial motivation emerge early in life awaits, therefore, more systematic study involving the comparison of multiple assessments in which the effects of different task requirements and their demands on emergent psychological competencies can be evaluated. In our own work, we have also found that toddlers respond inconsistently across different prosocial tasks, but their performance predictably varies according to the graded psychological requirements of each task. Consistent with the findings of others (e.g., Dunfield et al., 2011; Svetlova, Nichols & Brownell, 2010), we have found that toddlers are more likely to provide instrumental help or to share than to respond with empathy-based comforting or altruistic assistance (Newton, Goodman & Thompson, 2012). The former rely primarily on basic judgments of another's need or intentions; the latter require more complex emotional inferences and self-regulatory capacity. However, we have also found (with our colleague Abby Winer) a similar pattern of responding in a companion study of 4- and 5-year-olds, who are more likely to help than to share and are least likely to provide empathic or altruistic assistance. Thus, some forms of prosocial behavior may simply be more challenging to children because of their emotional demands or self-regulatory requirements. Viewed in this light, then, *prosocial behavior* is not merely a conceptual umbrella for a variety of disparate, unrelated responses, but is instead a developmental construct that broadens with developing competency and in which early emerging individual differences in temperament, socialization influences, and other processes are relevant to the different demands of alternative helping situations.

METHODOLOGICAL CONSIDERATIONS

Contemporary studies of early prosocial motivation are characterized by diverse measurement approaches. This is not surprising for several reasons. First, although the research literature on infants and toddlers is relatively small, it has developed in the context of decades of research on prosocial motivation in older children and adults in which a wide range of methodological strategies have been developed and can be borrowed. Second, studies of infants and toddlers pose special challenges, particularly

for understanding the conceptual and motivational underpinnings of observed behavior, and this has contributed to the diversity of methods and procedures. Finally, prosocial behavior is itself complex, as noted previously. This requires researchers to clarify what they mean specifically by the study of “prosocial behavior” and its operationalization.

The contributions to this special section reflect this methodological pluralism and illustrate the advantages and limitations of alternative strategies. Brownell et al. (in press) assessed multiple forms of prosocial behavior (sharing, instrumental, empathic, and altruistic helping), each with multiple tasks. Young children (18- to 30-month-olds) were given 30–60 sec to respond to each task, during which the experimenter provided increasingly more explicit affective, gestural, and verbal cues concerning desired assistance. Children’s behavior was scored according to how quickly they responded, based on the assumption that more immediate responses reflected greater competence because the adult’s cues were not as explicit or directive (and the child’s response was thus more prosocial than compliant). There are several advantages to this general strategy. By explicitly considering the task demands for each form of prosocial behavior, these researchers could predict (and confirm) age-related changes in prosocial responding based on children’s developing capacities for understanding others’ needs (see Svetlova et al., 2010). Using multiple assessments of each form of prosocial behavior reduces the influence of ancillary influences (such as fussiness) that can confound single assessments. And by scoring children’s behavior as a graded response, this approach recognizes that for some young children, prosocial responding may require adult support. It is important to recognize, however, that higher scores are likely to be multidetermined, reflecting not just prosocial motivation but also differences in behavioral inhibition, sociability, positive emotionality, and other qualities.

The Warneken and Tomasello (2008) study described by Hepach, Vaish, and Tomasello (in press), by contrast, focuses exclusively on instrumental helping and, more specifically, out-of-reach helping tasks which elicit the best performance from 20-month-olds (see Warneken & Tomasello, 2006). This enabled this research group to evaluate the effects of extrinsic rewards on an easily elicited form of prosocial assistance. In this study, toddlers participated in a training phase in which they were either rewarded or not rewarded for retrieving a dropped object across multiple trials until they reached the criterion of five retrievals. Then, a test phase followed immediately to determine whether toddlers would continue to help in the absence of reward across nine trials. By the test phase, however, these young children were so oriented toward assisting the experimenter that pretesting indicated that helping would be near ceiling.

Consequently, the test task was changed to provide children with attractive toys as distractors, requiring children to inhibit their attention to the toy if they were to retrieve the object for the experimenter within 30 seconds. The test phase thus presented children with a motivationally different challenge than the training phase. The results of this study suggest that the over justification effect may occur with very young children. But the results also confirm the robustness of prosocial motivation, because despite the change in task incentives, toddlers in the reward condition still helped on the majority of test trials.

Finally, Sommerville et al. used several prosocial tasks in their study of 12- and 15-month-olds. In their assessments of informational (lost object), instrumental (out-of-reach object), and sharing tasks, these researchers wisely extended the response window and broadened response criteria to accommodate the behavioral capabilities of 12-month-olds in comparison with 15-month-olds. However, infants of both ages were deemed “altruistic” when they shared their preferred toy with the experimenter and “selfish” when they shared the nonpreferred toy, even though infants shared a toy with the experimenter in each case (cf. Schmidt & Sommerville, 2011). This is a bit perplexing, because the experimenter provided no cues concerning her toy preferences, and there is considerable evidence that infants comprehend that others may have different preferences and goals from their own (e.g., Moses, Baldwin, Rosicky & Tidball, 2001; see also Henderson, Wang, Matz, & Woodward, in press). This may be why sharing either toy with the experimenter was associated with children’s performance on the two other prosocial tasks in this study, but whether children shared the preferred or nonpreferred toy was not.

This brief review of three of the studies of this special section does not do justice to the range of methodological strategies enlisted by these researchers, which also includes attention to response latency and exploration of novel, potentially informative responses such as pupil dilation. It illustrates, however, the importance of the methodological strategies selected for assessing very early prosocial responding. In studies with infants and toddlers, evidence for prosocial motivation depends crucially on the nature of the task: The amount of time provided to respond, competing demands on attention and affect, the developmental competencies required for adequate performance, the effects of ancillary influences of various kinds, the social context of the assessment (including the extent to which procedures elicit wariness or anxiety), the extent of adult support for prosocial responding, and many other influences. As an illustration of the importance of these influences, each of the contributors reports the number of children who were tested but not included in the data because of child resistance, fussiness, lack of attention to the procedure, failure to

reach criterion performance, or for other reasons, and this resulted in the loss of up to one-third of the original sample. Because early helping, sharing, and empathy are so provisional and tentative, students of very early prosocial motivation must be particularly attentive to the characteristics of the task that can enhance evidence for early prosocial behavior or undermine it.

The articles of this special section devote special attention to the *reasons* that infants and toddlers provide assistance. As Hepach et al. (in press) show, it is not necessarily because of the formal or informal rewards of doing so. Very young children instead seem intrinsically motivated to provide assistance when they know how to help, in part because of the sense of effectance that providing assistance can inspire (although they are also satisfied if another provides assistance). Beyond this, many have suggested that prosocial motivation might be based on broader features of early social understanding, but confirming this is challenging in light of the limited response capacities of infants. Using measures of looking time and touching, for example, Hamlin, Wynn and Bloom (2010) argued that 3-month-olds prefer an animated shape that acted “prosocially” rather than “antisocially” toward other shapes. But because measures of visual discrimination can be challenging to interpret (Aslin, 2007; Oakes, 2010), and findings in this area have been inconsistent (compare Hamlin, Wynn & Bloom, 2007 with Kuhlmeier, Wynn & Bloom, 2003), such conclusions must await follow-up replication and extension.

In light of this, the efforts of Sommerville et al. (in press) and Henderson et al. (in press) to interpret looking time measures in relation to other concurrent, convergent behavioral assessments are admirable. In a series of experiments, Henderson et al. (in press) found that 10-month-olds’ personal experience with collaborative activity was associated with their ability to represent the actions of two adults in terms of their collaborative goal, whereas infants without this experience did not comparably interpret the adults’ behavior as collaborative. By studying infants during a transitional period in their understanding of the goal structure of means–ends sequences and introducing an experimental intervention to enhance sensitivity to the goals underlying shared activity, these researchers provided convergent evidence to support their interpretation of the visual habituation findings. Likewise, Sommerville et al. (in press) used a violation-of-expectancy (VOE) procedure to examine the development of fairness expectations during the second year, which were compared with the toddlers’ responses to a series of prosocial tasks. These researchers found that at both 12 and 15 months, performance on the VOE procedure was predictably associated with sharing (although not with helping at 12 months), and there was also evidence for significant developmental changes in

fairness expectations between the two ages. In each study, the enlistment of concurrent evidence from other assessments helped to strengthen and clarify the interpretation of looking time data.

There are other methodological strengths to these studies. The researchers indexed prosocial behavior in terms of well-defined, age-appropriate behavioral criteria for helping, sharing, and other forms of assistance. Even when tasks assessed empathy-based helping, they did not confound assessments of prosocial behavior with measures of empathic responsiveness (such as pouting or a sober expression), recognizing that very young children can help without being motivated by empathy, and they can respond compassionately without knowing how to provide tangible assistance to a distressed adult. In these studies, moreover, a familiarized adult experimenter was the target of assistance, providing consistency in the circumstances to which children responded and leaving to others the question of prosocial behavior directed to family members or peers.

It is difficult to study prosocial behavior in infants and toddlers. This collection of research reports offers good methodological models for the field and highlights the importance of using a variety of methods and clearly defining and operationalizing different forms of prosocial behavior.

DEVELOPMENT OF PROSOCIAL MOTIVATION

These articles also advance our understanding of the origins of prosocial motivation. In doing so, they contribute to a portrayal of the development of an intuitive, humanistic morality in the early years that is new and distinct from traditional formulations of early moral development (Thompson, in press).

The most important of these early conceptual achievements is a growing awareness of others' goals and intentions. An understanding of the goal orientation of human activity develops rapidly during the first 2 years, built in part on infants' awareness of their own goal-directed activity (Henderson et al., in press; Woodward, 2009; Brownell, 2011). As Henderson and colleagues show, 10-month-olds are capable of interpreting others' actions in terms of underlying goals and intentions and can also understand dyadic behavior they observe as collaborative in nature, especially when they have social experience with collaborative activity. These achievements in the first year enable infants to detect, seek to alter, and eventually to enter into the intentional actions of others in cooperative, compliant, and helpful acts. A developing capacity for "shared intentionality" (Tomasello & Carpenter, 2007), even when others' goals are different from the child's own, can be observed in the second year in

toddlers' shared problem-solving and may provide a foundation for the early development of instrumental helping observed in the studies reported in these articles. Early sensitivity to the goal structure of observed behavior may also contribute to early prosocial motivation as young children respond to the actions of one actor on another. Hamlin, Wynn, Bloom and Mahajan (2011) found, for example, that 19- to 23-month-olds were more likely to provide rewards to a puppet previously observed as helpful and to take rewards from a puppet who had previously acted harmfully toward another puppet. If infants are aware of the shared goals underlying collaborative activity, they may also soon become aware of the facilitating or hindering consequences of one actor's observed actions for another's goals.

This leads to a second social-cognitive advance relevant to early prosocial behavior. Toddlers seem to be sensitive to violations of fairness or equity. As Sommerville et al. (in press) point out, fairness considerations can be manifested as sensitivity to *equal* outcomes, and they present evidence that at least by 15 months of age, toddlers respond differentially to equal vs. unequal distribution of resources in the VOE procedure (see also Schmidt & Sommerville, 2011). Fairness considerations can also be manifested as sensitivity to *deserved* outcomes, such as when people contribute unequally to a shared outcome. In these circumstances, there is experimental evidence that at least by age three, young children distribute rewards unequally according to the extent to which recipients deserved them. Baumard, Mascaro and Chevallier (2012), for example, showed that 3-year-olds allocated more cookies to story characters who had contributed to baking them compared with those who had not. By age 3 1/2, preschoolers allocate resources according to norms of reciprocity and indirect reciprocity, such as by allocating more to dolls that have shared with other dolls in the past (Olson & Spelke, 2008). These judgments of deservingness are relevant to prosocial motivation. Vaish, Carpenter and Tomasello (2010) reported that 3-year-olds were significantly less likely to offer assistance to a harmful experimenter compared with a neutral one, even when the adult only intended, but failed, to harm another person (see also Hamlin et al., 2011, for comparable findings with 19- to 23-month-olds).

It is unclear how equity awareness emerges developmentally, and whether sensitivity to equality and merit have concurrent or sequential developmental pathways. These are important topics for future research. Interestingly, Sloane, Baillargeon and Premack (2012), using measures of looking time, found that 19- to 21-month-olds showed predictably different preferences for equal and unequal distribution of resources depending on the deservingness of recipients, suggesting that sensitivity to equality and considerations of merit may develop concurrently.

Sensitivity to equity provides a potentially important window into early prosocial motivation. Consider the findings of Vaish, Carpenter and Tomasello (2009) described by Hepach et al. (in press). In this study, 18- to 25-month-olds watched as one adult stole or damaged another's prized possessions, with the victim showing no emotion of any kind. Toddlers were subsequently provided an opportunity to share one of their two balloons with the victim after the victim's balloon was lost. Children shared significantly more after observing the adult being harmed than in a control condition involving no harm. Understanding these findings as young children's response to multiple inequities in these circumstances (i.e., the victim's unfair treatment by another adult; the child having two balloons when the victim had none) is consistent with the experimental findings described previously. Although young children's concerned attention may have reflected affective perspective taking as well, in our experience, these expressions often also accompany other psychological states including confusion, concentration, or engagement in a socially complex situation, such as one involving two adults in conflict with each other in which the victim shows no emotion.

Emotion understanding is important, of course, and it constitutes a third social-cognitive constituent of prosocial motivation. Psychologists have drawn on a long philosophical tradition in arguing that emotion understanding and empathy motivate prosocial conduct, but this is a complicated association for very young children because the sight and sound of another's distress is a cognitively and motivationally challenging event for them. Although young children are adept at decoding emotional expressions, linking them to circumstances, and comprehending their associations with other mental events (like desires), they can also be observed ignoring, laughing at, or aggressing toward another in distress or seeking comfort for themselves (Zahn-Waxler, Radke-Yarrow, Wagner & Chapman, 1992). Early developing emotion understanding must thus become progressively enlisted into constructive social responding, including prosocial motivation. This is where social experience is important. Just as it is important for infants to have social experiences with collaborative activity to comprehend others' shared goals (Henderson et al., in press), it is also important for toddlers and preschoolers to have social experiences that scaffold developing emotion understanding and its relevance to others' needs.

The study by Brownell et al. (in press) advances long standing efforts to address such questions by examining how shared activity at home scaffolds developing emotion understanding and its association with prosocial motivation. Like other researchers, they focus on the content and quality of mother-child conversation. Emotion-focused conversation has rich

catalysts for developing emotion understanding: It enriches young children's representations with an adult partner's insights into the causes, consequences, and characteristics of emotional experience; enables connections between the child's emotional experiences and those of others, enculturates emotion understanding; and equips children with lexical referents that can be used to organize and generalize representations of emotions (Thompson, 2006). Unlike other researchers, however, Brownell et al. focused not only on parental labeling and explanations of emotions but also on parents' elicitation of emotion understanding during book reading with their 18- to 30-month-olds. Although emotion understanding was not directly measured in this study, they found that parental elicitations were significantly associated with multiple forms of helping and sharing throughout this age range.

As the authors recognized, there are multiple reasons why parent elicitations during book reading might be associated with young children's sharing and helping. As parents are likely to ask about the child's experiences relevant to the emotions depicted in the storybook, for example, they may help to clarify the motivational implications of other's needs in the context of reminiscing. Parents may also use stories as forums for moral socialization by offering proscriptive admonitions (e.g., when someone is sad, it is good to help). Further understanding of these processes awaits deeper exploration of these conversational processes associated with narrative.

CONCLUSION: FUTURE DIRECTIONS

Some have proposed that infants are born with a rudimentary moral sense or a natural predisposition for altruism (Bloom, 2010; Warneken & Tomasello, 2009). Such a nativist view cannot be confirmed based on current evidence, but, more importantly, this view risks overstating the reliability of early prosocial motivation and underestimating the diversity of social experiences on which it is based. As the articles in this special section show, early helping, sharing, and empathy are provisional, influenced by task parameters, the social context, temperamental variability, and age-related changes in attention, self-regulation, and other capacities. And as several articles demonstrate, social experience provides an essential foundation to the social-cognitive capacities underlying prosocial motivation, and differences in social experience are important early on. These early social influences, apparent across a range of cultural settings (Callaghan et al., 2011), do not consist of modeling or reinforcement of altruistic norms but rather constitute the building blocks of social experience from

which an intuitive moral sensibility emerges, based on sensitivity to others' goals and intentions, attention to equity, developments in theory of mind, and basic emotion understanding.

If this conclusion is reasonably correct, it provides the basis for a research agenda. One aspect of that agenda involves further examination of the origins of the fairness sensitivity that is suggested by a growing number of studies, especially in the context of young children's direct experience with equitable and inequitable situations. Another aspect of the agenda concerns the family interactions that contribute to the social-cognitive bases of prosocial motivation. In our research (with Abby Winer) on prosocial behavior in 4- and 5-year-olds, for example, moral evaluative statements (i.e., judgments about praiseworthy or disapproved conduct) in the context of parent-child reminiscing have been found to be important predictors of children's helping, sharing, and empathic assistance. Moreover, many messages about the self in relation to others are conveyed both verbally and nonverbally in parent-child interaction, and researchers interested in the development of socially constructive behavior have only begun to explore them.

A third aspect of this research agenda is to elucidate further the nature of individual differences in prosociality through the study of temperamental variability, differences in executive function and self-regulatory capacities, and self-referential beliefs underlying prosocial motivation. In infancy and especially as children become preschoolers, furthermore, a greater variety of social-cognitive capacities are likely to affect prosocial behavior, including attributional biases (both hostile and prosocial), evaluative judgments, and the growth of a "moral self." Further study of these constitutes a fourth aspect of the agenda for future research.

There is thus quite a research task remaining in understanding the foundations of prosocial motivation that are established in the early years and how these foundations develop in the years that follow. This research agenda may be best pursued with longitudinal, multimethod research on these issues (and by multimethod, we have in mind designs that include experimental probes and observational family studies). One of the insights yielded by these articles is that prosocial motivation develops considerably during the first 3 years, warranting greater attention to the interaction between changing social experience, growing social-cognitive capacities, and other developmental catalysts to prosocial motivation. An approach that considers the variety of children's social experiences, the ways these experiences influence prosocial development over time, and the complexity of the demands of circumstances of assistance will be best suited to addressing further questions related to how, when, and *why* very young children behave prosocially.

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