

**Rethinking Emotions in the Context of Infants' Prosocial Behavior:
The Role of Positive Emotions and Interest**

Stuart I. Hammond¹ and Jesse K. Drummond²

¹ School of Psychology, University of Ottawa

² Portland, Maine, United States

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Correspondence concerning this article should be addressed to Stuart I. Hammond, School of Psychology, University of Ottawa, 136 Jean Jacques Lussier, Ottawa, ON K1N 6N5, Canada. Email: shammond@institution.edu

Abstract

Emotions form the foundation of infants' early social interactions, yet the field's current understanding of their role in prosocial behaviors is generally limited to situations of distress and other negative emotions. In the present literature review, we argue that both positive emotions and specifically the emotion of interest play important roles in prosocial behavior and development. First, we explore the ways in which positive emotions characterize infants' everyday prosocial behaviors and the relationships that support these behaviors. We then examine the emotion of interest and its role in infants' prosocial behavior. Next, we synthesize recent research on positive emotions in early prosocial development and make a first attempt at linking the emotion of interest to prosocial behavior. We close by discussing future directions for research on prosocial behavior with these emotions.

Keywords: emotion understanding, interest, social development, prosocial behavior, infants

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Infants begin to care about and help others early in life. Already in the first year of life, infants cry in response to other infants' cries (Hoffman, 2000, 2007). Thereafter, they begin to respond to more complex displays of distress and do so in more sophisticated ways, such as by comforting others (e.g., Davidov et al., 2013; Knafo et al., 2008). Alongside these developments, infants begin to help others who are unable to complete simple tasks (e.g., Warneken & Tomasello, 2006) and take part in everyday routines and chores (e.g., Carpendale et al., 2014; Dahl, 2015; Hammond & Brownell, 2018), which can contribute to young children playing an important role in family and community life (e.g., Rogoff, 2014).

Broadly speaking, these developments are forms of *prosocial behavior*, voluntary behaviors intended to help others. Given that emotions are at the foundation of infants' social development (e.g., Dunn, 2000; Greenspan & Shanker, 2004; Walle & Campos, 2012), emotions should be expected to play an important role in infants' prosocial development. However, reflecting a larger paradox in the field of early social development, research into the role of emotions is quite limited (Gouin-Décarie et al., 2005; Liszkowski, 2013), and for prosocial behavior, this research is restricted to negative emotions. In other words, emotional prosocial behavior is elicited when others express distress, whereas other forms of prosocial behavior are presumably based on nonemotional structures of understanding.

In this literature review, we argue that although negative emotions play a crucial role in infants' prosocial development, early prosocial development is shaped by a wider emotional palette that includes positive emotions and the emotion of interest. A critical examination of the role of emotions in prosocial behavior is timely given that, on the basis of recent studies, researchers have claimed that helping others is itself a type of practical emotion understanding (e.g., Reschke, Walle, & Dukes, 2017). Recognizing a larger role for emotion in prosocial

behavior could in turn reveal a greater role for emotion in other aspects of infants' social behavior (Clément & Dukes, 2013).

In the first part of this article, we discuss the role of positive emotions in infants' prosocial development. Positive emotions characterize the majority of infants' prosocial behaviors, and these collaborative social interactions and relationships may contribute to infants' prosocial behavior even in negative contexts. In the second part of this article, we present what is, to our knowledge, the first effort to examine the often-neglected emotion of interest in relation to prosocial behavior. Infants' interest in the activities of others motivates some forms of prosocial behavior, and others' expressions of interest may contribute to infants' understanding of how to help. We close the article by noting some directions for future research on positive emotions and the emotion of interest in prosocial behavior.

Positive Emotions and Everyday Prosocial Behavior

An important pathway to understanding the emotive aspects of infants' prosocial behavior has been *empathy*. The various definitions of empathy, from (a) shared emotional states (e.g., Eisenberg et al., 2002) to (b) recognizing others' feelings (e.g., Hastings et al., 2006) to (c) imagining the emotion that another should feel given their situation (e.g., Davis, 2005; Lishner et al., 2017), typically link empathy to situations that elicit or should elicit negative emotions such as distress. From this foundation, accounts of empathy must confront the problem of why people would choose to connect to others' misery.¹ Infants' empathy for another's distress can be overcome by personal distress (e.g., Eisenberg et al., 2014), and their failures to help others are associated with wariness, shame, and comfort seeking (e.g., Drummond et al., 2017; Dunfield et al., 2011; Waugh & Brownell, 2017). Yet although others' distress may create salient psychological conditions to care about and help others, there is no

¹ Adam Smith (1790/1976) claimed that empathy (or sympathy, as he called it; see Jahoda, 2005, for the shared history of the terms) with negative emotions leads to pleasure. The philosopher David Hume quipped in response that "if all Empathy were agreeable . . . a hospital would be a more entertaining place than a ball" (Hume, as cited in Frazer, 2010, p. 100).

definitional stipulation that empathy arises solely in negative contexts (e.g., Telle & Pfister, 2016; Wispé, 1991). In principle, empathy could arise in situations involving positive emotions such as affection and enjoyment (Brownell et al., 2002).

Fortunately, the experience of others' distress is relatively rare in infants' lives (Zahn-Waxler et al., 1992). Research on the prosocial behaviors that are typical of infants' daily experience suggest that these behaviors occur in situations involving collaboration with parents, such as cleaning up and participating in routines and chores (e.g., Carpendale et al., 2014; Dahl, 2015; Hammond & Brownell, 2018; Rheingold, 1982). At first glance, daily routines might seem to be unemotional. However, although this research is not explicitly oriented to examining emotion, the context of early prosocial behavior seems to be characterized by positive emotions (Dahl et al., 2011).

When cleaning the house, feeding pets, or gardening, parents are rarely experiencing emotions that require infants' concern or intervention. However, infants' efforts to help in these contexts often show cheerfulness, or what Rheingold (1982) called "alacrity." Similarly, Kochanska (2002) remarked on infants' committed compliance, wherein infants follow parental requests to work on tasks such as cleanup and abide by parental prohibitions such as not touching certain objects with "satisfaction, pride, and positive emotion" (p. 339), as opposed to situational compliance, which is "merely in response to the immediate control and with mostly neutral affect" (p. 339). Longitudinally, committed compliance is related to more prosocial behaviors even when parents are not present.

If infants' prosocial behavior and development are mostly occurring in positive emotional contexts, this suggests very different ecological commitments, that is, predictions and expectations about behavior for theories of prosocial development (see Dahl, 2017; Rogoff et al., 2018). In theories where the primary emotional context of prosocial behavior is expected to be negative, the challenge is to explain why infants engage with and help others in otherwise

aversive situations. Given that in most families these situations are rare, an additional challenge is explaining how these behaviors are learned, as there are a few opportunities for socialization (Warneken & Tomasello, 2006). In contrast, in the commonplace helping characterized by positive emotions, there are many opportunities for infants to engage with others' internal states and for parents to socialize prosocial behaviors (Brownell, 2016) through praise and encouragement (e.g., Dahl, 2015) and supportive socialization strategies such as scaffolding (Hammond & Carpendale, 2015; Pettygrove et al., 2013; Rogoff, 2003). Perhaps for all the aforementioned reasons, infants' competency in positive interactions is greater than in interactions involving negative emotions (e.g., Reschke, Walle, et al., 2017; Walle & Campos, 2012).

Given infants' positive emotions when helping, parents may encounter the problem of managing the participation of their enthusiastic yet unskilled infants (see Hammond, 2014; Hammond & Brownell, 2018; Rheingold, 1982). Ironically, negative emotions may arise in these situations if a parent restricts their infant from helping (Forman, 2007). The positive relationships that characterize daily life may also contribute to infants' ability to help others in distress. Infants' expressions of concern and attempts to comfort others are most often directed at family members (e.g., Davidov et al., 2013). If a relationship with another person is often a positive one, then care and comfort could be a matter of repair and restoration to a positive state (see De Jaegher, 2009; Warneken et al., 2006). Furthermore, although negative emotions (and other emotions) in isolation can seem mysterious, irrational, unwarranted, or even frightening (Walle & Campos, 2012), infants may prove more willing or able to commune with these emotions when they are seen in the face of a loved one, representing the emotional and mental states not of a foreign "other" but of the familiar "mom" (Shanon, 2008).

Interest as an Emotion and Its Role in Prosocial Behavior

In highlighting the role of positive emotions in prosocial behavior, we alluded to infants' interest in the activity of others (Carpendale et al., 2014; Rheingold, 1982). In this section, we argue that *interest* is worthy of consideration as an emotion, albeit an atypical one, and one that is involved in infants' prosocial behavior. As we noted earlier, infants typically engage in some forms of prosocial behavior that are regarded as emotional and others that are regarded as unemotional. An interpretation of a prosocial behavior as emotional or unemotional may arise from a larger conceptual framework about the nature of emotion wherein human actions can involve emotion in some situations and can involve no emotion in other situations (Russell, 2015). However, if interest is regarded as an emotion, then many emotionally neutral prosocial situations are in fact emotional.

Interest is typically excluded from developmental research on emotions, which examines emotions such as sadness, happiness, surprise, and anger (e.g., Caron et al., 1985; Denham, 1986; Lopez et al., 2017; Quinn et al., 2011). These emotions are drawn from Ekman's pioneering research—in which a set of facial expressions recognized by adults across cultures expresses a set of universal emotions (Ekman & Cordaro, 2011)—that has grown into something resembling a textbook theory in much of developmental psychology (e.g., Nelson & Russell, 2013). Ekman (1992) expressed doubts over interest being an emotion, and only a small number of contemporary researchers study the emotion of interest (e.g., Camras et al., 2002; Clément & Dukes, 2013; B. S. Izard & Izard, 1977; C. E. Izard, 2007, 2010; Silvia, 2006; see also Panskepp, 1998, on the emotion of seeking), although historically pragmatic theorists like Dewey and Mead (Ward & Throop, 1989) and developmentalist Piaget regarded interest as an important human emotion (see Sokol & Hammond, 2009).

Central to interest, but also central to its exclusion from many accounts of emotion, is its transcendence of the cognitive–affective–motivational split that has characterized many philosophical and psychological paradigms of the human mind (Dixon, 2003, 2012). Interest is

an engagement in activity that implicates all three. For Dewey (1894/1971), interest expressed a coordination of the individual in “undisturbed action, absorbing action, unified action” (p. 186), and C. E. Izard (2007) thought that “interest is most likely to be the emotion in the human mind that continually influences mental processes” (p. 271). From a higher level theoretical perspective, the controversy surrounding interest exemplifies what Overton (2013) described as the split and relational worldviews. If interest is interpreted from within the split view of the mind, interest typically becomes cognitive, perhaps something like attention. Viewing interest as an emotion transforms many so-called cognitive–social interactions such as looking, pointing, and reaching into interactions that are also emotional (Clément & Dukes, 2013) and imbued with the attributes routinely granted to emotions, such as valence, intensity, and embodiment.

Although interest is identifiable with an accuracy higher than many other basic emotions (Silvia, 2006), interest is expressed in diverse ways. Interest is expressed when one is engrossed in an activity and when one encounters a problem (C. E. Izard, 2007). When one is engaged, interest can be expressed in “a face that looks alive and active . . . [when t]he eyes are converged and focused on the object of interest” (B. S. Izard & Izard, 1977, p. 216), but when one encounters a problem, interest can be expressed with cessation or freezing (see Camras et al., 2002; Reeve, 1993). The diversity of ways to express interest is perhaps one reason this emotion has fallen out of favor with researchers, given a tight focus in current research on specific expressions linked to specific emotions (see Campos et al., 2004; Lopez et al., 2017; Russell, 2015; Walle et al., 2017).

Infants experience and express interest when they follow parents around and attempt to participate in activities in the home. Parents may notice their infant's interest and encourage the infant to take part in the activity. Dahl (2015) found something like this in the way that mothers actively encourage infants to help in the home (Pettygrove et al., 2013; see also Hammond & Brownell, 2018). There is some evidence that in traditional indigenous cultures in Latin America,

parents engage and develop infants' interest in a much more sustained way that contributes to infants' playing a far more important role in the home and community (Coppens & Alcalá, 2015; Rogoff, 2014). Infants also express interest in negatively valenced situations through concern for others (Davidov et al., 2013). Although these situations may be rare, in activities such as book reading or conversations, parents may build on these interests by talking about the emotions of characters, and increased mental state talk is related to infants' attempts to comfort others (Brownell et al., 2013).

Infants also perceive others' interest in ways that may inform their efforts to help. In collaboration and cooperation, infants see people turning toward objects, picking them up, looking at them, and so on, which express interest in the task. In these same contexts, infants may also learn about interest through consequences (Widen & Russell, 2008), as putting down cooking implements once the food preparation is done signals that interest was in that task. In situations where another person has encountered a problem that they are trying to solve, infants may also encounter the expression of interest. Many experimental studies of helping focus on situations where an experimenter feigns an inability to complete a task (e.g., they cannot reach a dropped marker; Warneken & Tomasello, 2006). For example, Warneken and Tomasello (2006) remarked that after dropping an object, the "experimenter focused on the object only" by reaching for approximately 10 s, then "alternated gaze between object and child," and finally "verbalized his problem while continuing to alternate gaze" (p. 1301; see also Hammond & Carpendale, 2015; Svetlova et al., 2010). Although these studies typically present the experimenter's emotional state as neutral, infants may in fact use these expressions of interest to inform their helping.

Future Directions for Research on Infants' Prosocial Behavior

The inclusion of positive emotions and interest in research on infants' prosocial development would afford many future directions for research, conceptually and experimentally.

Integrating current research on collaborative forms of helping that features positive emotions with research on care that arises through concern for others in distress should be a priority. Recent research into prosocial behavior has turned to developments earlier and earlier in the lifespan (e.g., before 6 months of age; Hammond et al., 2017; Reddy et al., 2013). For example, Hamlin and colleagues' (e.g., Hamlin et al., 2007, 2010; Van de Vondervoort & Hamlin, 2018) findings that infants prefer helpful over unhelpful individuals may signal an early positive empathy. In our discussion of positive emotions, the families we mention are presumed to be typical in that positive emotions are commonplace. In contemplating the role of relationships in emotion understanding and prosocial development, researchers should consider families that display relatively more negative emotions. There is a small body of research on infant attachment suggesting that children with disorganized attachment status are less prosocial (e.g., Paulus et al., 2016).

For the study of the emotion of interest, researchers could systemically examine the role of expressed interest in soliciting infants' help. For example, in experimental studies of helping that have control conditions, in the control condition, the experimenter signals that they have completed a task (e.g., by throwing a marker on the floor), whereas, in experimental conditions, they express continued interest (e.g., by reaching for a dropped marker). In most control conditions, infants' attempts to participate are most often negligible or nonexistent (e.g., Dunfield et al., 2011; Warneken & Tomasello, 2006). At one level of analysis, throwing a marker and dropping it might not appear so different, but in terms of indicating one's intent and interest, they are profoundly different (Kelly, 2000). In other experimental helping tasks, an experimenter's initial actions, such as crying or shivering with cold, are directed at themselves (see, e.g., Dunfield et al., 2011; Svetlova et al., 2010), but an expression of interest, such as reaching, is subsequently included. For example, in Svetlova et al.'s (2010) study of 18- and 30-month-olds, in one task, a shivering experimenter subsequently "reach[es] toward[s] an out-of-

reach blanket with gaze alternation between the child and the blanket" (p. 1817). In another variant, they reach toward a desired toy after first crying. In this study, 18-month-old infants who engaged in helping tended to do so after the experimenter reached for the desired object, and 30-month-old infants helped after the desired object was named (which, of course, could be a different signal of interest). In contrast, in Dunfield et al.'s (2011) study of 18- and 24-month-old infants, only negative emotions were expressed, with no expressions of interest. The result is that "none of the infants [18 or 24 months] spontaneously engaged in other-oriented comforting behavior" (p. 239). In the Dunfield et al. (2011) study, when the experimenter expressed distress at lacking food and then made a sad face, a majority of infants helped. A more detailed understanding of the role of these expressions of interest may further understanding of when and how infants help others.

Interest may also be important in resolving debates on the developmental course of prosocial behavior (Dahl, 2017). One view in the prosocial literature is that infants have insufficient experience with problem situations to have learned how to help others and this helping is not learned (e.g., Warneken & Tomasello, 2006). However, if infants learn about interest in collaborative situations, they may bring this understanding to problem situations, providing in principle a mechanism where learning is generalized from one set of social interactions to another. Infants' interest in helping others could be examined in regard to orientation toward an altruistic interest in helping others complete a goal, a more social interest in being involved in a task with a social partner or a mastery interest in the task itself (e.g., Hepach et al., 2016; Pletti et al., 2017; Rheingold, 1982). One means of doing so might be to experimentally examine aspects of unhelpful helping in which infants persist in a task in a way that is unhelpful to the adult, which so far has been noted only in naturalistic contexts.

Conclusion

In this article, we have argued that emotion plays an important role in infants' prosocial behavior and development, in situations of distress, in positive collaboration, and during expressions of interest. We have highlighted literature on everyday helping in the home, which includes a discussion of positive emotions and collaboration that has been overlooked in research that is often focused on distress. We have also discussed ways in which interest as an emotion is relevant to infants' prosocial behavior.

Although we expect that the role of positive emotions in prosocial behavior would seem reasonable to most researchers, we suspect that our push for the consideration of interest will be more controversial. Even though we have cited researchers who regard interest as an emotion, our goal is not to argue from a position of authority but instead to encourage a critical reexamination of interest. Regarding interest as an emotion could contribute to a resolution of a larger paradox in developmental theory, where a foundational role for emotion in early social development is coupled with its seeming inefficacy relative to social-cognitive development (e.g., Gouin-Décarie et al., 2005). For example, although infants can distinguish subtle differences in emotional stimuli early in life (Grossman, 2013), these abilities seem to play little role in their organized responses in social interaction, where infants use putatively cognitive cues such as gaze to govern their social responses (e.g., Nichols et al., 2010; Repacholi & Gopnik, 1997; Vaish & Woodward, 2010). But if interest is an emotion, then following someone's gaze is a form of practical emotion understanding.

This speaks to a larger issue we have only alluded to, which is that there may be something wrong with having separated cognition from emotion in the first place. One of the reasons interest was accorded such a privileged place in pragmatist theory was because it is so well suited to illustrate a unity of cognition, emotion, and motivation in human action. Although there is nothing wrong with analyzing emotions separately, there is perhaps something problematic with portraying emotions as isolated from cognition in human activity and human

development (see also Piaget, 1954/1981). As they consider interest within prosocial behavior, researchers would do well to take Dewey's (1920) advice that interest is more than self-interest. Interests may be foundationally social and perhaps even prosocial and moral. As emotion researchers (e.g., Dixon, 2003, 2012) and moral developmental researchers (e.g., Turiel, 2010) look to both historical and contemporary sources for ways to piece these divided aspects of the human mind together, we suggest that revisiting interest is an excellent place to begin.

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