When Kids Know Better: Paternalistic Helping in 3-Year-Old Children

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Helping others is often more complicated than fulfilling their requests, for instance, when an individual requests something that is not suited to achieving her or his ultimate goal. Are children indiscriminate helpers, responding to any object-directed action or request, or do their helping actions prioritize ultimate goals over specific requests? We examined how 3-year-olds would provide help to an experimenter whose verbal requests were incompatible with the tasks she was trying to accomplish, a situation in which the best way to help was to deny the request and provide an alternative. In Study 1, children were less likely to give the experimenter a requested object when it was dysfunctional and could not allow the experimenter to complete her task than when it was functional. In Study 2, we found that children did not simply prefer functional objects, as they were willing to give the experimenter requested objects regardless of their functionality when the task was to throw objects in the trash. In Study 3, children denied a request for a dysfunctional object when the task could only be achieved using a functional object, but not when the task could be achieved with either object. We also found in Study 3 that children proactively warned an experimenter attempting to use an object not suited to her goal. Our studies show that by at least age 3, children prioritize ultimate goals when helping others, rather than fulfilling any object request.

Keywords: prosocial behavior, helping in children, goal understanding

Helping other people can garner their favor, improve one's reputation, and result in being helped more in the future (Nowak & Sigmund, 2005). Thus, learning to be a good helper is an important achievement for developing humans to attain. Children begin to help others at least by the second year of life—offering desired objects, providing comfort, and sharing resources (e.g., Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Rheingold, 1982; Warneken & Tomasello, 2006). However, helping others is often less straightforward than fulfilling clearly expressed goals or responding to cues of distress. For instance, adults might evaluate who it is that needs help, what might be the best way to help them, and the cost of being helpful, before deciding to help someone else (Gross, Wallston, & Piliavin, 1975; Sibicky, Schroeder, & Dovidio, 1995; Wilke & Lanzetta, 1970). One situation in which helping discerningly might be particularly useful is when the best way to help someone is by *not* doing what they ask you to do. For instance, if your friend wants a drink of water and asks you to hand her a nearby glass that you know is cracked, you can actually help most by refusing to pass along the broken glass and finding another glass to provide. This behavior could be considered a mild form of "paternalistic helping" because it implies that the helper believes she or he knows better than the beneficiary how best to help the beneficiary achieve her goals. Are young children able to recognize that ultimate goals should be prioritized over immediate requests, and integrate this understanding into their helping behavior?

Children have some understanding of helping behavior even before they are able to provide help themselves. At 6 months, infants prefer to reach for a character who helped over a character who hindered a third character's goal, and by 10 months, infants recognize that the third character should also prefer to interact with the helper over the hinderer (Hamlin, Wynn, & Bloom, 2007; Kuhlmeier, Wynn, & Bloom, 2003). As early as 12 months, children are motivated and able to help others to achieve their goals. For instance, they point to indicate a dropped object's location if an experimenter did not see it fall and performs searching actions (Liszkowski, Carpenter, & Tomasello, 2008), and they hand over an accidentally dropped object when an experimenter reaches for it (Dunfield et al., 2011; Over & Carpenter, 2009; Warneken & Tomasello, 2007).

Children's ability to help with more complex tasks (e.g., showing an experimenter the right way to get an object out of a box) improves over the course of the second year (Warneken & Tomasello, 2006), as does their ability to help others based on their preferences rather than the child's own (Repacholi & Gopnik, 1997). Other types of helping behaviors such as sharing one's own resources and providing comfort to others in distress also increase during this time period (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). Helping in response to more subtly indicated goals is still developing at age 2; children at this age are still significantly more likely to provide help when an adult is producing a clear goal-directed action, such as reaching, pointing, a verbal request, or an expression of desire, than when these cues are not present (Brownell, Svetlova, & Nichols, 2009; Dunfield et al.,

2011; Svetlova, Nichols, & Brownell, 2010). This suggests that although children are motivated and able to provide some help even in infancy, their ability to identify more complex goals (e.g., figuring out how to help someone expressing sad affect but not clearly indicating a desire; Svetlova et al., 2010) and appropriate means of providing help develops during the first few years of life (Warneken & Tomasello, 2009a).

Paternalistic helping—offering an alternative means of goal achievement when the requested means is not optimal, as in the cracked glass case—is less straightforward than responding to the kinds of requests or goal-directed actions examined in most work on early helping thus far, and requires a more sophisticated set of cognitive abilities. First, children need to be able to distinguish between the ultimate goal underlying the request (e.g., to fill the glass with water) and the immediate request itself (for the cracked glass) and recognize that helping should prioritize the ultimate goal. There is evidence that children can infer an individual's ultimate goal from their behavior by around 18 months, as they can imitate the intended action of an experimenter even when the experimenter fails to complete the action (Meltzoff, 1995). When children are able to integrate this understanding into their responses in the presence of a clearly stated opposing request is an open question.

Second, paternalistic helping requires an understanding that different means can be more or less useful for a particular goal and that an individual could be mistaken about the means to achieve his or her goal. The ability to distinguish between goals and means emerges in infancy; 12-month-olds recognize that if opening a box allows an actor to reach for a toy inside, they should interpret the actor's future behavior as directed toward the toy (her goal) not the box (the means) (Woodward & Sommerville, 2000). Later in the second year, infants can integrate their means–end understanding into their helping behavior. When 18-month-olds see an experimenter trying to obtain an object from a box through a too-small hole, they help by opening the box using a flap on the side that they had been shown earlier, something 14-month-olds are less likely to do (Warneken & Tomasello, 2007). Buttelmann, Carpenter, and Tomasello (2009) also found that if a toy was moved from one box to another in an experimenter's absence and the experimenter tried to open the box where she last saw it, 18-month-olds helped by opening the box that actually contained the toy. If the experimenter *did* witness the toy switching boxes, children helped her open the empty box she was searching in. These studies suggest that young children are able to recognize alternative means to goal achievement and can appropriately help others who are clearly mistaken in how they go about achieving their goals.

A third prerequisite of paternalistic helping is that children must have some understanding of the affordances of objects for particular tasks, because they must be able to recognize that a requested object could be inappropriate for completing a particular task. There is ample evidence that children categorize objects in terms their function and are more interested in the functions of objects than their other properties (Greif, Kemler Nelson, Keil, & Gutierrez, 2006; Kemler Nelson, Egan, & Holt, 2004; Kemler Nelson, Russell, Duke, & Jones, 2000). Additionally, 2- and 3-year-old children understand that accidentally but not intentionally broken objects should share category membership and labels with their unbroken counterparts, even though they are not useful for performing their usual function (Kemler Nelson, Holt, & Egan, 2004).

Children are also able to use common objects (e.g., cups, hairbrushes) to complete tasks; this ability begins to extend to objects for nonself-oriented tasks (e.g., hammers) after age 2 (McCarty, Clifton, & Collard, 2001). Children's understanding of the affordances of specific objects likely develops with experience with their properties and typical functions.

In order to help paternalistically, children have to not only integrate their understanding of object affordances, relationships between means and ends, and distinctions between requests and ultimate goals but also need to recognize that in a helping situation, they should *prioritize* the ultimate goal and inhibit immediate compliance with a verbal request. There is some work suggesting that inhibiting a response to a verbal request may be difficult for younger children because helping behavior can be strongly driven by a direct request. In situations in which it is not easy for children to identify an individual's goal, direct requests greatly increase helping. For instance, Brownell et al. (2009) observed that 2-year-olds were much more likely to use a "sharing machine" to share food with an experimenter if the experimenter verbally requested the food. Similarly, when goals are less obvious than out-of-reach objects and involve responding to emotional distress or giving up one's own resources, a specific verbal request or action (e.g., holding out one's hand to the child) increases children's helping (Dunfield et al., 2011; Svetlova et al., 2010). Children's ability to help is dependent on their ability to recognize another person's goal and the relevant action to complete it, and early helping may rely heavily on the presence of verbal requests or goal-directed cues.

Another piece of evidence that it may be difficult even at 30 months to override requests is work by Shwe and Markman (1997). They found that when children requested an object, they responded equally negatively when they were given an undesired object instead, and when they were given the desired object but the provider expressed misunderstanding of their request. It is possible that children may be committed to acknowledging others' specific verbal requests as well; if so, they might fail to provide paternalistic help when a verbal request is at odds with what would best help an adult experimenter. Further evidence to support this idea comes from work on children's understanding of deception, showing that 3-year-old children have difficulty inhibiting an immediate response to the referent of a verbal communication or pointing gesture, even after accumulating evidence that the communicator provides false information (Couillard & Woodward, 1999; Jaswal, Croft, Setia, & Cole, 2010; Mascaro & Sperber, 2009). Despite previous evidence that younger children (18 months) are able to help a mistaken individual who is going about her or his goal in an incorrect way (Buttelmann et al., 2009), it is unclear whether even 3-year-old children would be able to do this when it requires overriding a communicated request.

In the current study, we examine whether 3-year-olds can engage in paternalistic helping, overriding a communicated, but misguided, request and instead providing a more useful means of goal achievement. We chose to examine this question in 3-year-olds because the ability to inhibit a response to verbal communication begins to develop around this age and because children's helping behavior seems to be somewhat discerning by age 3. For instance, 21-month-olds selectively help an actor who previously intended to provide them with a toy over an actor who did not, despite the fact that neither actor actually shared with the child

(Dunfield & Kuhlmeier, 2010). Similarly, 3-year-olds prefer to help an actor who was helpful or neutral over an actor who intentionally harmed another person (Vaish, Carpenter, & Tomasello, 2010). Although these studies show that children are selective in *who* they help, very little work has examined whether children can be discerning in *how* they help others. We ask whether children can override an adult's specific verbal request in order to help effectively.

Study 1

In order to ask whether children help by responding to a recipient's verbal request or by providing the most helpful means to achieve the recipient's goal, one experimenter familiarized children with pairs of functional and dysfunctional objects (e.g., a cup, and a broken cup with a hole in the bottom). A second unfamiliar experimenter later asked for help with various tasks (e.g., pouring water), sometimes requesting dysfunctional objects to achieve her goal. Our specific question of interest was whether, when the second experimenter requested dysfunctional objects, children would help by giving her what she asked for, or by giving her what she needed to achieve her goal.

Method

Materials. Children were presented with four pairs of matched functional and dysfunctional objects in our study, interspersed with two distractor objects and one warm-up object. The pairs of objects were cups (a normal green plastic cup, and a blue plastic cup with a hole and several cracks in the bottom), markers (a normal orange marker, and a green marker that was dried up so it could not mark paper); hammers (a small-sized real hammer, and a squishy hammer stress toy that could not actually hammer); and phones (a working cellular phone, and a plastic toy cellular phone that did not function as a phone) (see Figure 1). The dysfunctional objects resembled the functional ones and were not obviously dysfunctional at first glance. However, after a very brief interaction, one was likely to notice their functional and dysfunctional characteristics. The distractor objects were a yellow party hat and

a gray plastic tube. The warm-up object was a pair of scissors. During the study, the objects were placed on two cafeteria trays, one closer to the table where the second experimenter would sit and one placed farther away. The objects to be requested were always placed on the closer tray as this provided a plausible reason why the experimenter would be asking for these items. The requested objects included the warm-up object and one object from each pair (two functional and two dysfunctional, with the specific object of each type depending on the counterbalancing order). The item locations within a tray were random.

Participants. Nineteen 3-year-old children participated in this study (nine females, mean age = 43 months, SD = 4 months). Participants were children from the New Haven, Connecticut, community whose parents volunteered to bring them into the lab for a study. An additional five children participated but were excluded from analyses due to experimenter error (n = 3; e.g., the experimenter said "Can you give me a cup?" rather than "that cup") or parental involvement (n = 2; e.g., parents who came into the room with their child and prompted them to help or answer questions).

Procedure. Children first participated in a familiarization phase. Experimenter 1 brought the child into the testing room, which contained a child-sized table with one chair and the two trays placed on the floor with the objects on them, with one tray closer to the table than the other. Experimenter 1 asked the child to sit on the floor between the two trays and sat next to the child, then introduced the task as a game where she and the child would be looking at the objects on the trays and naming them. Experimenter 1 then familiarized the child with all the objects one at a time, starting with a distractor object to get the child used to the game and become more comfortable in the setting. Experimenter 1 asked the child to name and explore each object (asking questions like "What is it called?"; "What is it for?"), without pointing out dysfunctional properties or directly comparing the two objects. If the child commented on dysfunctional properties (saying, for example, "It has a hole!"), Experimenter 1 responded neutrally ("Oh!" or "It does?") rather than giving the child positive feedback. After the child had interacted with each object, Experimenter
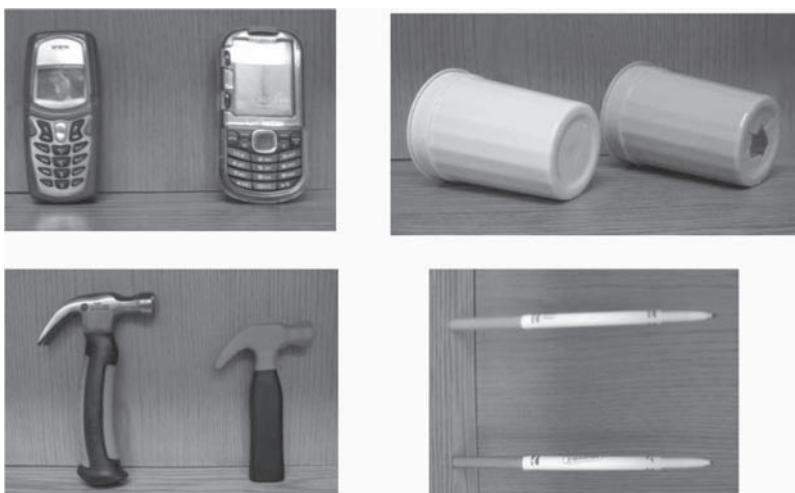

Figure 1. Object pairs used in Studies 1 and 2.

1 said to the child, "Now my friend is going to come in and set up for the next game! She'll be here in just a minute," then left the room.

Children then participated in the helping phase of the study. Experimenter 2 entered the room and stated that she was going to set up for another game. Experimenter 2 asked the child to remain seated on the floor between the two trays, and sat on the chair at the small table. Experimenter 2 then conducted five helping trials in which she first stated a goal and then requested a specific object (the object closest to her) to achieve the goal, under the guise of "getting ready." The first trial was always the warm-up trial ("Could you give me those scissors so I can cut the paper?") to familiarize children with the type of request Experimenter 2 would make (similar to the kinds of requests in other helping studies; e.g., Svetlova et al., 2010), but using an item without a match. Children then received two trials in which Experimenter 2 requested a functional object (e.g., "Could you give me that cup so I can pour some water?") and two trials in which she similarly requested a dysfunctional object. We counterbalanced which object pair went with which type of request (functional or dysfunctional) across participants. Therefore, the specific objects requested depended on the counterbalancing order to which each child was assigned, and these requested objects were always placed on the tray closer to the table before the study began. We also counterbalanced whether a functional or dysfunctional object was requested first; the type of request (functional or dysfunctional) then alternated across the remaining three test trials. Experimenter 2 always requested items on the tray closer to her and pointed at the desired object while verbally requesting it (always saying "that [object]", referring to it specifically), alternating gaze between the object and the child. The four goals were pouring water (cup), writing a note (marker), putting a note on the wall for Experimenter 1 to see (hammer), and calling Experimenter 1 to let her know when the setup would be finished (phone).

The dependent measure was the first object the child placed in the experimenter's hand. If the child asked a question or made a comment (e.g., pointing out that there were two objects or asking, "Which one do you want?"), Experimenter 2 repeated the request with the same intonation and continued pointing at the closer object. If children handed over a dysfunctional object, Experimenter 2 attempted to use it to fulfill her goal for a few seconds, then said, "Hmm, this doesn't seem to be working," at which point all children went to get the functional object to offer (this was still coded as handing over the dysfunctional object, because the first item handed over was the dependent variable). Two coders independently determined which object children gave first and transcribed verbal comments. Coders agreed which item was offered 97% of the time (Cohen's κ = .91), and disagreements were resolved by a third coder.

Results

Data were analyzed at the participant level, with each participant contributing up to four responses, two for trials involving requests for functional objects and two for trials involving requests for dysfunctional objects. We used the nonparametric Wilcoxon signed-ranks test to compare children's responses to requests for functional and dysfunctional objects; each child received a score of 0, .5, or 1, corresponding to the proportion of the two trials of each type in which they provided the experimenter with the requested object. Children gave the requested object significantly more often on trials in which the experimenter requested a functional object (97.4%) than on trials in which she requested a dysfunctional object (31.6%), Wilcoxon signed-ranks test, $Z(N = 19)$ = 3.62, $p < .001$.

Thus, 68.4% of the time that the experimenter requested the dysfunctional object, children handed over a functional object instead, suggesting initial evidence of paternalistic helping. We used Fisher's exact test to confirm that this pattern held for each type of object, analyzing data on a trial level because each child contributed a score for one trial of each item. Children gave the requested object significantly more on trials in which the experimenter requested a functional object than on trials in which she requested a dysfunctional object for the hammer trials ($p = .032$, Fisher' exact test), cup trials ($p < .001$, Fisher's exact test), and phone trials ($p < .001$, Fisher's exact test), and the effect was marginally significant for marker trials ($p = .057$, Fisher's exact test) (see Figure 2).

Children' responses differed by the order of the trials: Children were more likely to offer the requested object on the first trial that a dysfunctional object was requested (47.4%) than on the second trial that the dysfunctional object was requested (15.8%), Wilcoxon signed-ranks test, $Z(N = 19)$ = 2.45, $p = .014$. However, children were still significantly more likely to offer requested objects on the first trial that a functional object was requested (100%) than on the first trial that a dysfunctional object was requested (47.4%), Wilcoxon signed-ranks test, $Z(N = 19)$ = 3.16, $p = .002$, indicating that this result was not driven solely by the second trial. Also, children who received a dysfunctional object request as their first test trial and children who received a dysfunctional object request as their second test trial were equally likely to provide the requested object in response to their first dysfunctional object request ($p = 1.00$, Fisher's exact test). Thus, an initial request for the functional object of a pair did not affect children's responses to a dysfunctional object request.
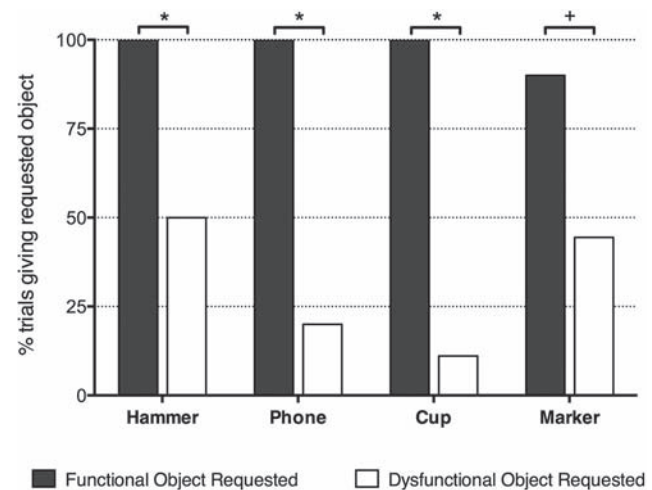

Figure 2. Percentage of trials in which children gave the requested object for each trial type (functional requested vs. dysfunctional requested) for each type of item in Study 1. * $p < .05$. $+$ $p < .06$.

We examined whether age played a role in children's likelihood to engage in paternalistic helping. There was a marginally significant positive correlation between age and frequency of offering the functional object when the dysfunctional object was requested ($r = .43$, $p = .068$).

In addition to examining how often children provided the requested object, we examined children's verbal responses on all trials (see full results in Table 1). On trials in which children handed over a functional object in lieu of a requested dysfunctional object, they provided a correction highlighting the dysfunctional properties of the requested object 57.7% of the time; on trials in which children handed over a requested functional object, they informed the experimenter of the dysfunctional properties of the nonrequested object 15.8% of the time. Overall, children were significantly more likely to point out the dysfunctional properties of the dysfunctional object on trials in which a dysfunctional object was requested (44.7%) than on trials in which a functional object was requested (15.8%), Wilcoxon signed-ranks test, $Z(N = 19) = 2.50$, $p = .013$.

Discussion

We found that, by age 3, children engage in a form of paternalistic helping: they will override a request for a particular object in favor of helping the recipient achieve her ultimate goal. Children were more likely to offer the object that the experimenter requested when that object was functional and could help the experimenter to achieve her goal than when it was not. Previous work has shown that children give others objects that they request or toward which they direct goal-oriented behavior (such as reaching) (e.g., Svetlova et al., 2010; Warneken & Tomasello, 2006). Our study builds on this literature by demonstrating that, by age 3, children can inhibit their

response to a request for a particular item and select a more appropriate item instead. Furthermore, slightly more than half the time that they provide a nonrequested object to better fulfill the experimenter's goal, children gave an explanation—they provided verbal information about the dysfunctional properties of the requested object or the functional properties of the nonrequested object. This may be consistent with Shwe and Markman's (1997) finding that children care about having their requests acknowledged in addition to being given the items they request. Children were more likely to comment on the properties of the objects when they were handing over a nonrequested object because a dysfunctional one had been requested (perhaps to explain why they disregarded the specific request) than when they were handing over a requested functional object.

We show that 3-year-olds can override immediate requests when helping another person and provide objects that will better help the person to achieve her ultimate goals. However, an alternative explanation for our findings is that children prefer to offer functional objects regardless of goals. This possibility is explored in Study 2.

Study 2

In Study 2, we presented 3-year-olds with the same situation as in Study 1 except that Experimenter 2 now stated a different goal when requesting objects: to throw them in the trash. If children offered the functional objects in Study 1 because they preferred to offer these objects, independent of the experimenter's goal, they should do the same when the experimenter requests objects to throw away, offering a functional object even if a dysfunctional one is requested.

Table 1
Children's Helping Responses and Verbal Comments by Study

Study	No comment	Function comments (e.g., "This one didn't work")	Other comments (e.g., "I'm going to help you")
Study 1			
Functional request			
Child gave requested	73.7%	16.8%	7.9%
Child gave nonrequested	0%	0%	2.6%
Dysfunctional request			
Child gave requested	21.0%	5.3%	5.3%
Child gave nonrequested	18.4%	39.5%	10.5%
Study 2			
Functional request			
Child gave requested	60.0%	5.7%	28.6%
Child gave nonrequested	2.9%	2.9%	0%
Dysfunctional request			
Child gave requested	61.1%	16.7%	22.2%
Child gave nonrequested	0%	0%	0%
Study 3			
(dysfunctional requests)			
Conventional task			
Child gave requested	47.4%	0%	0%
Child gave nonrequested	15.8%	36.8%	0%
Unconventional task			
Child gave requested	78.9%	0%	5.3%
Child gave nonrequested	10.5%	0%	0%

Method

Materials. The materials used were identical to those in Study 1, except that the warm-up object was a crumpled piece of paper rather than the pair of scissors.

Participants. Nineteen 3-year-old children participated in this study (nine females, mean age = 42 months, SD = 3 months). Participants were children from the New Haven, Connecticut, community whose parents volunteered to bring them into the lab for a study, and none of these participants had participated in Study 1. An additional four children participated but were excluded from analyses due to not clearly giving one object to the experimenter (because they either refused to give either object or gave both objects) in 50% or more of the trials.[1]

Procedure. Children first participated in a familiarization phase with Experimenter 1 identical to that of Study 1. They then participated in a helping phase similar to that of Study 1, except that Experimenter 2 introduced her task as throwing out trash before getting ready for the next game. In the warm-up trial, she asked for the crumpled piece of paper ("Could you give me that crumpled paper so I can throw it in the trash?") to familiarize children with the task. Children then received two trials in which Experimenter 2 requested a functional object (e.g., "Could you give me that cup so I can throw it in the trash?") and two trials in which she similarly requested a dysfunctional object (e.g., "Could you give me that phone so I can throw it in the trash?"). The specific requested items that were functional versus dysfunctional, and whether a functional or dysfunctional item was requested first, were counterbalanced across children, with the type of requested item (functional or dysfunctional) alternating across the four trials of interest. As in Study 1, Experimenter 2 always requested items on the tray closer to her and pointed at the object while verbally requesting it (always saying "that [object]," referring to it specifically), alternating gaze between the object and the child. The goal on each trial was to throw an object in the trash.

The dependent measure was the first object the child placed in the experimenter's hand. If the child asked a question or made a comment (e.g., pointing out that there were two objects or asking, "Which one do you want?"), Experimenter 2 repeated the request with the same intonation and continued pointing at the closer object. Experimenter 2 took and threw out whichever object children offered, not offering any feedback or correction. Two coders independently determined which object children gave first and transcribed verbal comments. Coders agreed which item was offered 100% of the time (Cohen's κ = 1.0).

Results

Children gave the requested object about equally on trials in which the functional object was requested (93.9%) and trials in which the dysfunctional object was requested (100%), Wilcoxon signed-ranks test, $Z(N = 19) = 1.41$, $p = .157$, suggesting that they were not averse to handing over dysfunctional objects generally.[2] We performed Mann–Whitney U tests to compare children's behaviors in Study 1 and Study 2 because the data were between subjects. Overall, children gave requested dysfunctional objects significantly more often in Study 2 than in Study 1, Mann–Whitney U, $Z(N = 38) = 5.01$, $p < .001$, whereas children gave requested functional objects equally often in the two

experiments, Mann–Whitney U, $(N = 38) = .594$, $p = .795$ (see Figure 3).

Children's helping behavior did not differ by the order of the trials (all $ps > .05$) or by the specific item being requested; that is, they treated functional and dysfunctional items similarly regardless of specific item (hammers, $p = 1.00$; cups, $p = .206$; phones, $p = 1.00$; markers, $p = 1.00$, Fisher's exact test).

Because 100% of children provided a dysfunctional object in response to a request for a dysfunctional object, we could not examine (as we did in Study 1) whether age played a role in children's likelihood to provide functional objects in response to dysfunctional requests.

In addition to examining how often children provided the requested object, we examined children's verbal responses on all trials (see full results in Table 1). Children were equally likely to point out dysfunctional properties of objects on trials in which a dysfunctional object (16.7%) and on trials in which a functional object (8.6%) was requested, Wilcoxon signed-ranks test, $Z(N = 19) = .905$, $p = .366$.

Discussion

Children were equally likely to offer an experimenter the object she requested to throw in the trash when that object was functional and when it was dysfunctional. This finding suggests that children do not simply prefer to offer functional objects to the experimenter in all situations. Rather, 3-year-olds would override the experimenter's requests and offer functional objects instead when the requested objects could not be used to complete the experimenter's goal (Study 1), but were willing to offer requested dysfunctional objects when the experimenter had a different goal to throw objects in the trash (Study 2).

Although Study 2 rules out the possibility that children always prefer to hand over functional objects, it is possible that children were confused by the task of throwing objects in the trash, because throwing objects in the trash is not necessarily dependent on their functionality. It is still possible that for any task for which the function of the object is relevant, children might provide the conventionally functional object even if it is not functional given the particular task at hand (e.g., if the cup was to be used not as a drink-holder but as a cookie-cutter—a task for which even a cup with a hole in the bottom could be used). Children in Study 1 may have assumed that a conventionally functional object should always be provided for a task for which object function is relevant—not considering the functionality of the requested object for the specific task. In Study

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[1] We analyzed the data with these participants included, and the results did not differ. Because we were primarily interested in comparing the two types of trial (functional vs. dysfunctional requested object), we excluded from our final analysis participants who provided data for only one trial type.

[2] Across participants, five trials were excluded from analyses because an experimenter forgot a trial (two trials) or because children did not clearly give one object to the experimenter (three trials), either by refusing to give either object or by giving both objects. If children did not clearly give one object on only one trial, only the trial was dropped, but if children responded in either of these ways on both trials of the same type, we excluded them from the study because this would result in not having data of a particular trial type (functional requested or dysfunctional requested), making a comparison across the two types of trials statistically impossible.
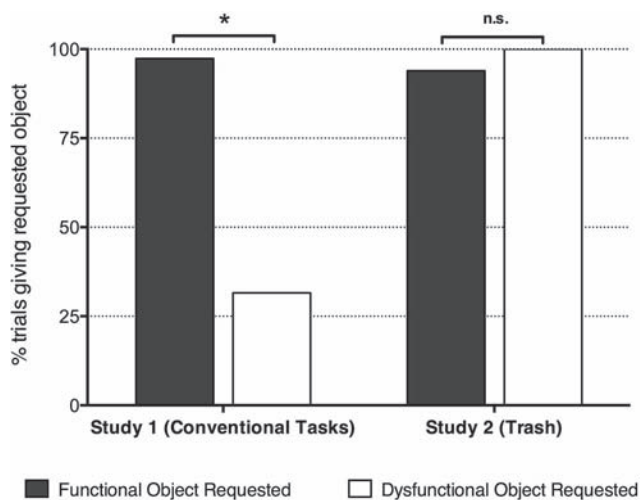
Figure 3. Percentage of trials in which children gave the requested object for each trial type (functional requested vs. dysfunctional requested) in Studies 1 and 2. * $p < .001$.

3, we examined whether children consider the affordances of an object for the experimenter's task in deciding how to help.

Study 3

In Study 3, we looked at whether children are judicious paternalistic helpers. Specifically, we examined whether they would provide an experimenter with a requested dysfunctional object to complete a task for which this object *could* be used, but provide a functional alternative to complete a task for which the dysfunctional object *could not* be used. In this study, we continue to refer to the conventionally dysfunctional objects (e.g., the broken cup and toy phone) as "dysfunctional"; however, for some tasks these objects were equally functional to their conventionally functional counterparts.

In addition, in this experiment, we extended our question about paternalistic helping to ask whether children might not only help paternalistically in response to a misguided request but also actively volunteer help to an individual going about his or her goal in a misguided way.

This experiment therefore included two different types of trials. First, we presented children with two "request" test trials similar to those in Studies 1 and 2 to ask whether children would provide dysfunctional objects for some tasks but not for others. Then, children completed two "action" test trials in which the experimenter made no request and simply reached for the object closer to her after stating her goal, to investigate whether children might spontaneously warn the experimenter about dysfunctional objects.

Method

Materials. As in Studies 1 and 2, children were presented with four pairs of matched functional and dysfunctional objects in our study, interspersed with two distractor objects and one warm-up object. Two pairs of objects, used in the "request" test trials, were the same as in Studies 1 and 2: cups (a normal green plastic cup, and a blue plastic cup with a hole and several cracks

in the bottom) and phones (a working cellular phone, and a plastic toy cellular phone that did not function as a phone). We added two new pairs of objects for the "action" test trials. These object pairs included sweatshirts (a green sweatshirt with one wet sleeve, and an orange sweatshirt which was dry) and crayon boxes (a large empty crayon box, and a similar large crayon box full of crayons). The distractor objects and warm-up object were the same as those used in Study 1. As in the previous studies, the objects were placed on two cafeteria trays, one closer to the table where the second experimenter would sit and one placed farther away. The objects to be requested (or reached for) were always placed on the closer tray; these included the warm-up object and one object from each pair (two functional and two dysfunctional, with the specific object of each type depending on the counterbalancing order). The distractor objects were randomly placed on the trays.

Participants. Twenty 3-year-old children participated in this study (12 females, mean age = 42 months, SD = 3 months). Participants were either children from the New Haven, Connecticut, community whose parents volunteered to bring them into the lab for a study or children at preschools in the New Haven area whose parents consented to their child participating in a study at their school. None of these participants had participated in Studies 1 or 2. An additional five children participated but were excluded from analyses due to parent involvement ($n = 1$), fussiness or refusal to continue participating in the study ($n = 2$), or experimenter error ($n = 2$; e.g., the experimenter requested the object without stating the task for which she wanted the object). One child of the 20 in the sample contributed data only for "action" trials because the experimenter failed to conduct one of the "request" trials; it was therefore impossible to compare this child's responses across the two types of request (conventional vs. unconventional task), but possible to compare this child's responses across the two types of actions (reach for functional vs. reach for dysfunctional).

Procedure. Children first participated in a familiarization phase identical to that of Study 1. They then participated in a helping phase similar to that of Study 1, except the first two trials were "request" trials in which Experimenter 2 requested objects on the closer tray to complete certain tasks, and the next two trials were "action" trials in which Experimenter 2 reached for objects on the closer tray to complete certain tasks. All children began with the warm-up trial in which Experimenter 2 asked for the scissors as in Study 1.

In the "request" trials, Experimenter 2 always requested a dysfunctional object (thus, the dysfunctional cup and dysfunctional phone were always placed on the tray closer to the experimenter, and their functional counterparts were always on the farther tray). Children received one trial in which Experimenter 2 requested a dysfunctional object to complete a conventional task identical to the tasks from Study 1 ("Could you give me that cup so I can pour some water?"; "Could you give me that phone so I can call [Experimenter 1]?") and one trial in which Experimenter 2 requested a dysfunctional object to complete an unconventional task that could be completed using either object of the pair ("Could you give me that cup so I can cut a circle in this Play-Doh?"; "Could you give me that phone so I can use it to hold down these papers?"). We counterbalanced which object pair went with which type of task (conventional or unconventional) across participants, as well as the order of the conventional and unconventional task

requests. As in Studies 1 and 2, Experimenter 2 requested objects on the tray closer to her and pointed at the desired object while verbally requesting it (always saying "that [object]," referring to it specifically), alternating gaze between the object and the child.

For the "request" trials, the dependent measure was the first object the child placed in the experimenter's hand, and the procedure for responding to children's questions was identical to Study 1. Two coders independently determined which object children gave first and transcribed verbal comments. Coders agreed which item was offered 100% of the time (Cohen's κ = 1.0). In both "request" and "action" trials, independent coding after the study was performed for 15 of the 19 participants as we did not have video data for four of the participants. Agreement between the two independent coders and the "online" coder, who noted which objects the child gave and their verbal responses immediately after the study, was 100% for the coded "request" data; thus, we felt confident relying on the initial coder's data for the remaining four participants.

For the "action" trials, children received one trial in which Experimenter 2 reached for a functional object to complete a task and one trial in which Experimenter 2 reached for a dysfunctional object to complete a task; for these trials, both tasks represented conventional uses of the objects (putting on a sweatshirt to get warm, using crayons to draw a picture), and therefore only the functional object would be useful. We counterbalanced which type of object in each pair was reached for (functional or dysfunctional) across participants. Therefore, the specific objects that Experimenter 2 reached for depended on the counterbalancing order to which each child was assigned, and these objects were always located on the tray closer to the table. We also counterbalanced whether a functional or dysfunctional object was reached for first.

For the "action" trials, the dependent measure was whether the child warned the experimenter, providing information about the functionality of the object the experimenter was reaching for, or the functionality of the alternative object on the other tray, before any prompting. If the child did not warn Experimenter 2 when she grabbed the wet sweatshirt or empty box of crayons, Experimenter 2 attempted to use it to fulfill her goal (opening the box of crayons or putting on the sweatshirt) then commented on its dysfunctional property, which made it unsuited for her task, as in Study 1. At this point, all children provided the functional object. Two coders independently determined whether the child warned the experimenter (i.e., if children pointed out that the crayon box was empty or that the sweatshirt was wet) about the dysfunctional properties of the dysfunctional object before the experimenter said that the object did not work. Coders agreed on whether a warning was provided 93% of the time (Cohen's κ = .95), and disagreements were resolved by a third coder.

Results

Data were analyzed at the participant level, with each participant contributing two responses for each phase of the test trials ("request" trials, conventional vs. unconventional task; and "action" trials, functional vs. dysfunctional object reach), with the exception of the participant who contributed only two responses in the "action" trials.

In the "request" trials, children gave the requested object significantly more on trials in which the experimenter requested a dysfunctional object for an unconventional task (89.5%) than on trials in which she requested a dysfunctional object for a conventional task (47.4%), Wilcoxon signed-ranks test, $Z(N = 19) = 2.83$, $p = .005$.

Replicating our results from Study 1, 52.6% of the time that the experimenter requested the dysfunctional object, children handed over a functional object instead.

We examined whether age played a role in children's likelihood to engage in paternalistic helping in our task. Unlike in Study 1, there was no significant correlation between age and frequency of offering the functional object when the dysfunctional object was requested ($r = .07$, $p = .79$).

In addition to examining how often children provided the requested object, we examined children's verbal responses on all trials. On conventional task trials in which children handed over a functional object in lieu of a requested dysfunctional object, they provided a correction highlighting the dysfunctional properties of the requested object 36.8% of the time; on unconventional task trials in which children handed over a requested dysfunctional object, they never (0%) commented on the dysfunctional properties of the object. Overall, children were significantly more likely to point out the dysfunctional properties on trials in which a dysfunctional object was requested for a conventional task that could not be accomplished with that object (36.8%) than on trials in which a dysfunctional object was requested for an unconventional task that could be accomplished with that object (0%), Wilcoxon signed-ranks test, $Z(N = 19) = 2.65$, $p = .008$.

In the "action" trials, children were significantly more likely to inform the experimenter about the dysfunctional properties of one of the objects on trials in which the experimenter was reaching for a dysfunctional object to complete her goal (50.0%) than on trials in which she was reaching for a functional object to complete her goal (15.0%), Wilcoxon signed-ranks test, $Z(N = 20) = 2.33$, $p = .02$. We examined whether age played a role in children's likelihood to warn the experimenter. There was no significant correlation between age and frequency of warning the experimenter when she reached for a dysfunctional object ($r = -.35$, $p = .13$).

Discussion

Children were more likely to give a requested dysfunctional object to an experimenter to complete an unconventional task for which the object could be used than for a conventional task for which the object could not be used. This suggests that children take into account the affordance of objects for achieving an individual's specific goal. They help judiciously by offering a requested dysfunctional object only when it is useful for the goal and providing an alternative when it is not. Additionally, 3-year-old children not only provide others with appropriate help when asked, but can warn an individual who tries to use an object that is not suited to her task. This extends previous work showing that 18-month-olds point out the correct location of an object to an adult who infants knew was mistaken about its location (Knudsen & Liszkowski, 2012).

General Discussion

Our studies show that 3-year-olds are capable of ignoring an explicit request and providing a person with the object they know

will best help to achieve her goal. Children can not only provide instrumental help in response to a clearly indicated goal (Warneken & Tomasello, 2006, 2007) but also paternalistically decide how best to help others when their requests are incompatible with their goals. Our findings cannot be explained by a general preference for selecting functional objects, because children did not have a bias to offer functional objects to throw in the trash (Study 2) or to offer functional alternatives when (traditionally) "dysfunctional" objects could be used to complete a task (Study 3). Instead, children are able to recognize when others' immediate requests are incompatible with their ultimate goals and provide them with alternative means to achieve these goals when such means are available.

There are two possible interpretations for the findings of Studies 1 and 3. One possibility is that children offer a functional object in lieu of a requested dysfunctional object because they prefer to offer the *most useful* means to help the experimenter achieve her goal. A second possibility is that they offer a functional object because they recognize that the dysfunctional object could *not possibly be used* to help the experimenter achieve her goal. Although our current findings cannot distinguish between these two possibilities, the findings of Study 2 might hint at the second. Children were willing to throw functional as well as dysfunctional objects in the trash, even though it might be optimal to throw out dysfunctional objects (especially for the two objects that were broken, the cup and marker). However, it is difficult to conclusively interpret the results of this study because it is not obvious that paternalistic helping would require preferentially handing over dysfunctional objects to throw in the trash, as throwing objects in the trash can be independent of the objects' function. With the stimuli we used in our study, it may have been more obvious that one object was better suited than its counterpart to the tasks of Study 1, but not as obvious that one object was better suited than its counterpart to throwing in the trash in Study 2 (especially for the hammers and phones, for which the dysfunctional item was a toy rather than a damaged object).

Nonetheless, it seems possible that 3-year-old children will offer a requested object if it is possible to use this object to achieve a person's goal (i.e., it is *possible* to throw a perfectly good cup in the trash), but they opt instead to provide a useful object if it is not possible to use the requested object to achieve the person's goal (i.e., it is *not possible* to drink water from a cup with a hole in the bottom). Further work will be needed to investigate more specifically whether children at this age will override an explicit request to offer a better alternative even if the requested object was simply suboptimal for achieving the recipient's goal. Children's ability to paternalistically help in this type of "suboptimal request" situation may improve with age as they come to a more complex understanding of the situations in which paternalistic helping would be appropriate.

Study 3 provides evidence that 3-year-olds can take their paternalistic helping behavior one step further and actively warn an individual who is attempting to use an object that is not suited to her task. Children often informed an experimenter that an object she was attempting to use for a task had a property that made it unhelpful for that task, without any prompting, suggesting that 3-year-olds are motivated to help even when there is no obvious request or goal-directed cue suggesting that children should intervene. This finding extends previous work showing that children

help in response to communications and goal-directed cues (Dunfield et al., 2011; Svetlova et al., 2010; Warneken & Tomasello, 2006). Children in our study did not just have a general motivation to inform the experimenter about the properties of the objects, as they were more likely to point out properties relevant to the task when the experimenter was attempting to use an object that was not best suited to her task.

These studies add to the growing literature suggesting that young children are motivated and able to engage in a variety of prosocial behaviors. Not only can children help others with straightforward instrumental goals (Warneken & Tomasello, 2006), share resources with others who are lacking (Vaish, Carpenter, & Tomasello, 2009), and comfort others who are distressed (Zahn-Waxler et al., 1992), but their strategies for helping are flexible. They are able to help others appropriately when their immediate desires are incompatible with their ultimate goals, providing a means of goal achievement even if it involves ignoring a request. Our work also nicely complements the findings of Shwe and Markman (1997) that 30-month-old children care about their own communicated requests being understood by others as much as they care about their goals being met. We show that in children's responses to another individual's communicated requests, they care about helping the individual to achieve her ultimate goal; additionally, they often verbally clarified their helping behavior—doing so more often when it might be seen as expressing misunderstanding of the request (i.e., when children offered a nonrequested functional object) than when it would not (i.e., when children offered a requested functional object). This could be due to a similar desire to children in Shwe and Markman (1997) to clarify that a person's communication has been understood. Children are able to help others by giving them objects as well as by providing helpful information as early as 14 months (Warneken & Tomasello, 2009b). The current work suggests that by at least age 3 they are able to productively combine these two forms of prosocial behavior; they more often provide information about objects in the environment in response to an experimenter's request when the information might be helpful to the experimenter's goals, and they proactively inform an experimenter when her goal-directed behavior is misguided.

Our findings are consistent with recent research showing that children's helping behavior is already discerning in several ways by age 3. Although previous work has suggested that 3-year-olds are selective about who they help (Vaish et al., 2010), we find that children at the same age are becoming discerning as well in *how* they help others. Our results also support the idea that the ability to help paternalistically improves over the course of the fourth year of life, as there was a trend in Study 1 toward older 3-year-olds engaging in paternalistic helping more than younger 3-year-olds. However, given the small samples sizes and limited age range used in our studies, future research with a broader age range is needed to more precisely examine the emergence and development of paternalistic helping in early childhood.

What underlying abilities develop over the first 3 years of life that allow children to engage in paternalistic helping? One likely component ability is that of distinguishing between immediate and ultimate goals and deciding which to prioritize in helping another person. Previous work has shown that even infants are able to understand the basic goal structure of others' actions (e.g., Meltzoff, 1995). Yet, children's understanding of more complex goals

likely improves with age, for instance, when specific goals are actually in service of larger goals. To help appropriately in our study, children had to integrate their understanding of the functions of the objects, an appreciation that goals differ from the means used to achieve them, and a recognition that ultimate goals are more important than means requested to achieve them.

Children's developing understanding of object affordances may also provide a partial explanation for early paternalistic helping as well as the trend for paternalistic helping to increase with age. In particular, we may see a positive age trend in Study 1 and not in Study 3 because children are more familiar at an earlier age with the typical affordances of cups and phones than of hammers and markers. Perhaps early forms of paternalistic helping rely on understanding object affordances for particular tasks, and this understanding can help to scaffold later developing paternalistic behaviors that require an understanding of how more subtle or unobservable means, such as actions or decisions, might serve particular goals.

We suspect that 3-year-olds' ability to help paternalistically is not yet adultlike and that stronger forms of this behavior, such as withholding help when there are no better options available, might not emerge until later in childhood. Although we have referred to helping appropriately in response to a misguided request as *paternalistic helping*, this falls short of strong paternalism, which can involve going against what someone *truly* desires in service of what one believes is in his or her best interest. For example, would children refuse to provide a requested object when withholding the object actually goes against the requester's current desires rather than when the requester is mistaken about the properties of the requested object (e.g., refusing to hand over a box of cigarettes)? It is possible that children's assessment of the knowledge state of the experimenter may play an important role in their ability to help paternalistically in different situations, and in the development of paternalistic behaviors in childhood. For instance, the clearer it is that the experimenter is unaware that her request is misguided, the more children may be likely to override the request. Initially, children might only take the initiative to help an individual going about a task incorrectly when they are certain the individual is unaware of the correct means (e.g., Buttelmann et al., 2009). By age 3, we show that children are able to override an individual's request and provide a better means of goal achievement even when it is not made explicit that the experimenter is unaware that she is going about her goal in the wrong way. An adultlike understanding of paternalism, in which requests should be overridden even if the asker is clearly aware of what she is doing, might develop over the course of childhood. Although these questions currently remain unanswered, our results demonstrate that within the first few years of life children already have a remarkably advanced understanding of helping—one that distinguishes between immediate goals and ultimate goals—and can select an appropriately helpful action even when it requires overriding an explicit request.

References

Brownell, C. A., Svetlova, M., & Nichols, S. (2009). To share or not to share: When do toddlers respond to another's needs? *Infancy, 14,* 117–130. doi:10.1080/15250000802569868

Buttelmann, D., Carpenter, M., & Tomasello, M. (2009). Eighteen-month-old infants show false belief understanding in an active helping paradigm. *Cognition, 112,* 337–342. doi:10.1016/j.cognition.2009.05.006

Couillard, N. L., & Woodward, A. L. (1999). Children's comprehension of deceptive points. *British Journal of Developmental Psychology, 17,* 515–521. doi:10.1348/026151099165447

Dunfield, K. A., & Kuhlmeier, V. A. (2010). Intention-mediated selective helping in infancy. *Psychological Science, 21,* 523–527. doi:10.1177/0956797610364119

Dunfield, K., Kuhlmeier, V. A., O'Connell, L., & Kelley, E. (2011). Examining the diversity of prosocial behavior: Helping, sharing, and comforting in infancy. *Infancy, 16,* 227–247.

Greif, M. L., Kemler Nelson, D. G., Keil, F. C., & Gutierrez, F. (2006). What do children want to know about animals and artifacts? Domain-specific requests for information. *Psychological Science, 17,* 455–459. doi:10.1111/j.1467-9280.2006.01727.x

Gross, A. E., Wallston, B. S., & Piliavin, I. M. (1975). Beneficiary attractiveness and cost as determinants of responses to routine requests for help. *Sociometry, 38,* 131–140. doi:10.2307/2786237

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature, 450,* 557–559. doi:10.1038/nature06288

Jaswal, V. K., Croft, A. C., Setia, A. R., & Cole, C. A. (2010). Young children have a specific, highly robust bias to trust testimony. *Psychological Science, 21,* 1541–1547. doi:10.1177/0956797610383438

Kemler Nelson, D. G., Egan, L. C., & Holt, M. B. (2004). When children ask, "What is it?" what do they want to know about artifacts? *Psychological Science, 15,* 384–389. doi:10.1111/j.0956-7976.2004.00689.x

Kemler Nelson, D. G., Holt, M. B., & Egan, L. C. (2004). Two- and three-year-olds infer and reason about design intentions in order to categorize broken objects. *Developmental Science, 7,* 543–549. doi:10.1111/j.1467-7687.2004.00378.x

Kemler Nelson, D. G., Russell, R., Duke, N., & Jones, K. (2000). Two-year-olds will name artifacts by their functions. *Child Development, 71,* 1271–1288. doi:10.1111/1467-8624.00228

Knudsen, B., & Liszkowski, U. (2012). Eighteen- and 24-month-old infants correct others in anticipation of action mistakes. *Developmental Science, 15,* 113–122. doi:10.1111/j.1467-7687.2011.01098.x

Kuhlmeier, V., Wynn, K., & Bloom, P. (2003). Attribution of dispositional states by 12-month-olds. *Psychological Science, 14,* 402–408. doi:10.1111/1467-9280.01454

Liszkowski, U., Carpenter, M., & Tomasello, M. (2008). Twelve-month-olds communicate helpfully and appropriately for knowledgeable and ignorant partners. *Cognition, 108,* 732–739. doi:10.1016/j.cognition.2008.06.013

Mascaro, O., & Sperber, D. (2009). The moral, epistemic, and mindreading components of children's vigilance towards deception. *Cognition, 112,* 367–380. doi:10.1016/j.cognition.2009.05.012

McCarty, M. E., Clifton, R. K., & Collard, R. R. (2001). The beginnings of tool use by infants and toddlers. *Infancy, 2,* 233–256. doi:10.1207/S15327078IN0202_8

Meltzoff, A. N. (1995). Understanding the intentions of others: Re-enactment of intended acts by 18-month-old children. *Developmental Psychology, 31,* 838–850. doi:10.1037/0012-1649.31.5.838

Nowak, M. A., & Sigmund, K. (2005). Evolution of indirect reciprocity. *Nature, 437,* 1291–1298. doi:10.1038/nature04131

Over, H., & Carpenter, M. (2009). Priming third-party ostracism increases affiliative imitation in children. *Developmental Science, 12,* F1–F8. doi:10.1111/j.1467-7687.2008.00820.x

Repacholi, B. M., & Gopnik, A. (1997). Early reasoning about desires: Evidence from 14- and 18-month-olds. *Developmental Psychology, 33,* 12–21. doi:10.1037/0012-1649.33.1.12

Rheingold, H. L. (1982). Little children's participation in the work of adults, a nascent prosocial behavior. *Child Development, 53,* 114–125. doi:10.2307/1129643

Shwe, H. I., & Markman, E. M. (1997). Young children's appreciation of the mental impact of their communicative signals. *Developmental Psychology, 33,* 630–636. doi:10.1037/0012-1649.33.4.630

Sibicky, M. E., Schroeder, D. A., & Dovidio, J. F. (1995). Empathy and helping: Considering the consequences of intervention. *Basic and Applied Social Psychology, 16,* 435–453. doi:10.1207/s15324834basp1604_3

Svetlova, M., Nichols, S. R., & Brownell, C. A. (2010). Toddlers' prosocial behavior: From instrumental to empathic to altruistic helping. *Child Development, 81,* 1814–1827. doi:10.1111/j.1467-8624.2010.01512.x

Vaish, A., Carpenter, M., & Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental Psychology, 45,* 534–543. doi:10.1037/a0014322

Vaish, A., Carpenter, M., & Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Development, 81,* 1661–1669. doi:10.1111/j.1467-8624.2010.01500.x

Warneken, F., & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science, 311,* 1301–1303. doi:10.1126/science.1121448

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy, 11,* 271–294. doi:10.1111/j.1532-7078.2007.tb00227.x

Warneken, F., & Tomasello, M. (2009a). The roots of human altruism. *British Journal of Psychology, 100,* 455–471. doi:10.1348/000712608X379061

Warneken, F., & Tomasello, M. (2009b). Varities of altruism in children and chimpanzees. *Trends in Cognitive Sciences, 13,* 397–402. doi:10.1016/j.tics.2009.06.008

Wilke, H., & Lanzetta, J. T. (1970). The obligation to help: The effects of amount of prior help on subsequent helping behavior. *Journal of Experimental Social Psychology, 6,* 488–493. doi:10.1016/0022-1031(70)90058-2

Woodward, A. L., & Sommerville, J. A. (2000). Twelve-month-old infants interpret action in context. *Psychological Science, 11,* 73–77. doi:10.1111/1467-9280.00218

Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). Development of concern for others. *Developmental Psychology, 28,* 126–136. doi:10.1037/0012-1649.28.1.126