

Shyness and Social Conflict Reduce Young Children's Social Helpfulness

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This study examined social influences on 3-year-old children's decisions to help an experimenter gain another person's attention ($N = 32$). Children were slower to help the experimenter when the target had previously expressed disinterest in attending to her. Shy children were less likely to support the experimenter's attempts to communicate with the target; however, this association was not influenced by children's knowledge of the target's disinterest, and there was no relation between shyness and children's support for a separate physical goal. Therefore, young children's decisions to act helpfully incorporate consideration for others beyond a focal person with an unmet need, and they are further constrained by children's own comfort with the actions required to help.

Young children regularly help other people. To understand why, researchers investigate the abilities and motivations underlying their prosocial behavior in different contexts (Brownell, 2013; Dunfield & Kuhlmeier, 2013; Eisenberg, Spinrad, & Knafo-Noam, 2015; Martin & Olson, 2015; Paulus, 2014; Warneken & Tomasello, 2009). One consistent observation is that, during the 2nd year of life, children begin to help others achieve a variety of physical, action-based goals (Rheingold, 1982; Warneken, Hare, Melis, Hanus, & Tomasello, 2007; Warneken & Tomasello, 2006, 2007). However, a focus on the earliest instances of helping may neglect important developments in children's understanding of others' frustrated goals, children's prosocial motivations, and the factors that influence their decisions to help.

In particular, adaptive helping decisions should incorporate two key social considerations. First, how might supporting one person's goal impact other people? If doing so would negatively affect others, an action that is helpful to one person may still be socially inappropriate. Second, would helping incur any personal costs? If others disapprove of another person's goal, helpers who support that goal risk negative evaluation and social sanction. These considerations highlight issues that should contribute to the subjective value of helping, yet

their influence on children's helping decisions is unclear. This gap in our knowledge of children's prosocial decision making exists because most investigations of early helping center on children's support for the physical goal of an isolated experimenter. Such scenarios minimize potential impacts on others and risks to the child.

Beier, Over, and Carpenter (2014) recently demonstrated that young children help people accomplish goals directed at other people—a form of instrumental helping they called “social helping.” After observing one person trying unsuccessfully to get the attention of another individual, 3-year-old children approached the target individual and redirected her attention back to the experimenter. Children thus provide instrumental support for others' social and physical goals. The primary difference between social helping tasks and more conventional physical helping tasks is the nature of the goal (e.g., getting someone's attention vs. obtaining an object).

Because social goals target other people, social helping scenarios naturally introduce the possibility of social conflict and personal risk to the helper. The target of a person's goal may agree or disagree with that goal. But, are early social helping decisions even sensitive to a goal's compatibility with the preferences of its target? Young children may lack the cognitive ability or inclination to consider how helping one person might affect others. Alternatively, the slightest hint of social conflict might suppress children's helpfulness altogether. A third

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possibility is that children register potential social conflicts but base their decisions to help on a more nuanced assessment of the costs and benefits of different actions. No research on early prosocial behavior has examined these possibilities.

Another challenge of social helping scenarios is that they typically require helpers to engage with others more extensively than physical helping scenarios do. For example, encouraging someone to change their behavior may be more intimidating than handing someone an out-of-reach object. Shy children, who already have heightened concerns about receiving negative social evaluations, may feel this challenge most acutely. Despite ample evidence that temperament is associated with early prosociality (Eisenberg et al., 2015), however, few studies have specifically assessed the relation between shyness and helping. The available evidence is mixed: One study found a clear link between preschoolers' shyness and physical helping (Stanhope, Bell, & Parker-Cohen, 1987), but another found that neither social fear nor a shyness–fearfulness composite was related to toddlers' physical helping (Gross et al., 2015). Because the risk of negative social evaluation is highly salient when one must intervene upon a person who is the target of another person's social goal, a link between shyness and helping may be more evident in social helping scenarios. Furthermore, shy children may be particularly reluctant to help when a goal's target clearly disagrees with that goal.

To examine these issues, we adapted Beier et al.'s (2014) social helping scenario. The testing session began with a conventional out-of-reach physical helping opportunity, followed by a pair of trials in which an experimenter sought the attention of an unresponsive target individual. In one trial, the reason for the target's nonresponse was ambiguous; she might not have heard the experimenter's call or she might have been ignoring it. In the other trial, her disinterest was clear. We also collected caregivers' reports of children's shyness.

We had two main sets of hypotheses. First, if children's social helping decisions incorporate the preferences of a target individual, they should be less eager to help when the target is clearly unwilling (for infants' detection of unwillingness within their own dyadic interactions, see Behne, Carpenter, Call, & Tomasello, 2005). Second, because shy children are more sensitive to the personal costs of incurring a negative social response, we predicted a correlation between shyness and social helpfulness, and we expected this association to be stronger when the target individual was more clearly disinterested in responding to the first experimenter.

The physical helping task provided an opportunity for two secondary considerations. First, to assess the specificity of shyness' putative effects on helping, we planned to compare the strengths of associations between shyness and social versus physical helping. Second, as social helping is a new area of investigation, if social helping rates were unexpectedly low, we anticipated using physical helping as a positive check on our sample's overall prosociality. Providing continuity with Beier et al. (2014), we tested 3-year-old children.

Method

Participants

Thirty-two 3-year-old children (12 girls, $M = 38$ months 4 days, $SD = 34$ days, range = 35; 18–40;16) participated. Seven (four girls) were tested but excluded: two due to parental interference, three due to child fussiness, and two due to experimenter error. Data collection occurred between fall 2014 and spring 2015. Children were recruited from a database of families in the Washington, DC metro area who had volunteered for research participation. Caregivers identified their children as primarily White (66%) and non-Hispanic (86%); family incomes ranged broadly, but the modal income bracket was above \$100,000 yearly.

Procedure

Setup

Two female experimenters played the roles of the Caller and Player. Figure 1 shows the testing space layout. Caregivers sat in the far corner reading a magazine, avoiding eye contact and interaction with the child. Four video cameras recorded the session.

Design

In a fixed order, children experienced a physical helping opportunity followed by two social helping opportunities. The relative order of the two social helping conditions was counterbalanced. The order of physical and social helping tasks was fixed to preserve the possibility of using physical helping as a positive check on children's overall prosociality.

Shyness Assessment

Parents completed the 20-item Emotionality, Activity, and Sociability (EAS) Temperament



Figure 1. The testing room setup, with a simulated social helping calling event. [Color figure can be viewed at wileyonlinelibrary.com]

Survey for Children (Buss & Plomin, 1984) before the child participated, except for two who did so 42 and 32 days after their appointments. The scale of interest was Shyness; the five items are listed in Table 1. Internal scale reliability was acceptable, Cronbach's $\alpha = .728$.

Warm-Up Period

The session began with warm-up games (catch, toy cars, placing stickers on each other; $M = 6$ minutes 12 s; $SD = 106$ s). As the warm-up concluded, the Caller coughed and commented that she was losing her voice, providing a cover for her later whispering. The Caller got into position for the three helping opportunities by climbing laboriously over her desk. This emphasized the difficulty of reentering the play space.

Physical Helping

As the Caller wrote on a piece of paper, the Player and child looked inside a bin for a new

Table 1
Items for the Shyness Scale of the EAS Temperament Survey (Buss & Plomin, 1984)

Shyness scale items	
1	Child tends to be shy
2	Child makes friends easily (R)
3	Child is very sociable (R)
4	Child takes a long time to warm up with strangers
5	Child is very friendly with strangers (R)

Note (R) = reverse coding.

game (2.5 m from the desk). The Caller surreptitiously dropped her pen onto the floor and reached for it unsuccessfully. While reaching, she explained her goal with variations on "My pen!" and "I can't reach it" for the first 30 s, with the addition of "I need my pen to write something down!" for another 20 s. If the child did not spontaneously retrieve the pen after 50 s, the Caller explicitly asked the child to retrieve it. If the child did not help, the Player ceased searching for a game and handed the pen to the Caller.

Social Helping

Next, the Caller switched to reading a picture book. The Player and child played with a puzzle at the center of the room. During this play period, the first social helping opportunity occurred. When the trial concluded, both experimenters happily discussed the book for 1 min, including the child in the conversation. This reestablished the Player's interest in interacting with the Caller. Then the Player and child played with building blocks. After 2 min, the Caller initiated the second social helping opportunity.

In both social helping opportunities, the Caller attempted to get the Player's attention to show her images in the book. On both trials, the Caller "whispered," providing a possible reason why the Player did not respond (i.e., she did not hear her). In fact, the Caller's raspy voice was near regular volume and easily heard by the child. In the ambiguous condition (AM) condition, no further explanation for the Player's nonresponse was provided; plausibly, she could either be ignoring the Caller or simply not have heard her. In contrast, just prior to the not interested (NI) condition, the Player made her disinterest in the Caller explicit; thus, there was strong evidence that the Player was ignoring her. The two trials were identical during the windows in which helping was measured.

This procedure diverged from Beier et al. (2014) in two notable ways. First, because the current study centered upon a conflict between the Caller and Player, it was important for them to be equals (previously, the Player was a puppet). Second, to lower extraneous task demands, the child and Player engaged in parallel play around the same toys during social helping trials (previously, the child had to disengage from a solo game to approach the Player).

AM condition. Throughout the test event, the Caller leaned over the desk and called urgently to the Player, with arm outstretched (Figure 1). She

followed a schedule of four 20 s phases, offering increasing explanation of her goal. For the first 20 s, the Caller simply tried to get the Player's attention, "Psst! [Player's name] . . . over here." For the next 20 s, she also suggested that the Player could not hear her, "Psst! [Player's name], can't you hear me?" For the next 20 s, the Player continued similarly, additionally stating the reason for her goal, "Psst! [Player's name], I have something to show you!" At the start of the final 20 s, the Caller glanced at the child for the first time and said, "Oh, [Child's name]—I don't think that [Player's name] can hear me . . ." Then she continued addressing the Player, occasionally glancing to the child. If the child had not spontaneously helped by the end of the test event, the Caller explicitly requested assistance, "Hey, [Child's name], can you tell [Player's name] that I need her?"

If at any point the child attempted to gain the Player's attention, the Caller paused her calling (but kept her arm outstretched) and the Player addressed the child, "What is it?" If the child referred her attention to the Caller, the Player ended the test event by turning turn toward the Caller, saying, "Oh! What is it?" If the child engaged the Player but did not refer her to the Caller after 3 s, the Player returned to playing with her toys and the Caller resumed calling to the Player.

NI condition. The test event in this condition was identical to the AM condition. However, it was preceded by the Caller making two brief attempts to gain the Player's attention, "Psst [Player's name]." After each attempt, the Player half-turned and waved away the Caller, saying, "Not now, I'm playing" clearly but without negativity. This manipulation took less than 10 s.

Coding

A primary coder tagged key events on the videos using Datavyu software (Datavyu Team, 2014). Physical helping was noted if the child handed the dropped pen back to the Caller. For social helping events, the coder noted all verbal or nonverbal attempts by the child to engage the Player or refer her attention back to the Caller, plus any additional utterances. Successful social helping was noted if children both engaged the Player (i.e., got her attention) and referred her toward the Caller. This could occur in a sequence (e.g., tapping her shoulder and then pointing to the Caller) or simultaneously (e.g., saying the Player's name aloud while pointing). The coder was blind to the social helping condition.

Ordinal social helping scores were derived from the point during a test event in which any successful social helping occurred (Svetlova, Nichols, & Brownell, 2010). Helping during the first 20 s interval earned the maximal score of 5; during the second, third, and fourth intervals earned a 4, 3, and 2, respectively; after the Caller's explicit request earned a 1. A score of 0 indicated no help at all.

Half of participants were double coded, with near-perfect agreement. Coders agreed perfectly on the presence of helping during the physical helping opportunity and the AM social helping condition (Cohen's $\kappa = 1$); for the NI condition, one disagreement was resolved through discussion (Cohen's $\kappa = .846$). Examining just those children who performed a successful social helping response, coders had 100% agreement on ordinal social helping scores in both conditions.

Results

Preliminary analyses revealed no effect of sex or interactions involving sex and condition. Sex was not considered further.

Consistent with prior studies (e.g., Warneken & Tomasello, 2013), 81.3% of children spontaneously provided physical help. For social helping tasks, spontaneous helping was 59.4% (AM condition) and 43.8% (NI condition). Physical helping occurred quickly (5.4 s), with longer latencies for the AM (28.6 s) and NI (45.9 s) conditions. Median social helping scores were higher in the AM than NI condition (2.5 vs. 1.0; see Table 2 for details).

During the physical helping event, only one child commented on the dropped pen to the Player (who did not respond). During the social helping events, many children interacted with the Player by touching her, talking to her, or moving directly within her field of view. In addition to children whose first engagement with the Player led to referring her to the Caller (AM condition: 17 children; NI condition: 8 children), others simply engaged her for personal reasons, such as commenting on their activity or continuing to play with her (AM: 8; NI: 13).

Children's social helping behaviors were clear and well organized, utilizing a range of strategies to direct the Player's attention back to the Caller. Children first engaged the Caller by addressing her verbally (AM: 3 children, NI: 1 child), moving within her view (AM: 1), touching her (AM: 2; NI: 2), or touching her as they entered her view (AM: 1; NI: 1); the remaining children produced verbal

Table 2
 Frequencies, Social Helping Scores, and Latencies for Children Who Provided Help Prior to the Caller's Request

Help type	Event	Frequency			Social helping score			Latency of unrequested help (s)	
		Help	On request	No help	Median	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Physical	Out of reach	26	3	3				5.36	5.59
Social	Ambiguous nonresponse	19	2	11	2.50	2.56	2.23	28.58	24.69
Social	Player not interested	14	9	9	1.00	1.75	1.70	45.85	26.00

references not requiring prior engagement. Children's reference behaviors included pointing gestures produced after establishing visual engagement (AM: 3), points in conjunction with deictic gaze (i.e., looks provided for the Player, switching between Player and Caller; AM: 3; NI: 3), verbal reference alone (AM: 4; NI: 3), verbal reference in conjunction with deictic gaze (AM: 1) or points (AM: 5; NI: 4), or a simultaneous combination of verbal reference, points, and deictic gaze (AM: 3; NI: 4).

Our first main aim was to determine whether children's social helping decisions would be influenced by evidence of the Player's disinterest. Children's overall levels of help (i.e., both spontaneous and requested) did not differ between the AM and NI conditions, McNemar test, $p = .625$, nor did their levels of spontaneous help alone, McNemar test, $p = .125$. However, children's social helping scores were higher in the AM than NI condition, Wilcoxon signed ranks, $Z = 2.63$, $p = .008$, $r = .33$, indicating quicker, more spontaneous helping. Children had higher helping scores in the AM than the NI condition for both orders (AM first: median = 3 and 2; NI first: median = 2 and 1); however, this difference was only significant when the NI condition came first, Wilcoxon signed ranks, $Z_{NI-first} = 2.69$, $p = .007$, $r = .70$; $Z_{AM-first} = .85$, $p = .40$, $r = .21$.

Figure 2 presents histograms of the social helping scores. Most often, children in the AM condition informed the Player about the Caller quickly or not at all. The most common responses in the NI condition were either to help upon explicit request or not at all. Children in the AM condition were more likely to help during the first calling phase than those in the NI condition, McNemar test, $p = .008$.

Several children explained the Player's nonresponse to the Caller by clearly stating the Player's activities or priorities, an unpredicted but noteworthy behavior. For instance, one child said, "She's

not listening to you. She's playing blocks. She's trying to build a store." This occurred marginally more often in the NI condition, McNemar test, $p = .07$; seven did so exclusively in the NI condition, one did the reverse, and one did so in both conditions.

Our second main aim was to examine associations between individual differences in shyness and variation in social helping. In both social helping conditions, shy children had lower social helping scores, Spearman's correlations: $r_{AM} = -.41$, $p = .021$; $r_{NI} = -.41$, $p = .020$. The strengths of these correlations were similar across conditions, $p = .99$ (Meng, Rosenthal, & Rubin, 1992). Partial-order correlations controlling for order showed identical results.

We also conducted three point-biserial correlations to determine whether or not children's shyness was associated with the presence of spontaneous helping (i.e., helping prior to request vs. helping on request or not at all) for each task. These analyses permitted side-by-side comparisons between the social helping conditions and physical helping condition (which was not designed to yield an ordinal helping score). Shyness was not significantly correlated with the presence of spontaneous physical helping, $r = -.21$, $p = .256$, but it was significantly correlated with the presence of spontaneous social helping in both conditions, $r_{AM} = -.48$, $p = .006$; $r_{NI} = -.45$, $p = .010$.

Discussion

This study demonstrates that young children's social helpfulness reflects consideration for others beyond the person who needs help. When an experimenter (the Caller) tried unsuccessfully to get another person's attention (the Player), children's decisions to help were guided by knowledge of the Player's social preferences and their own comfort

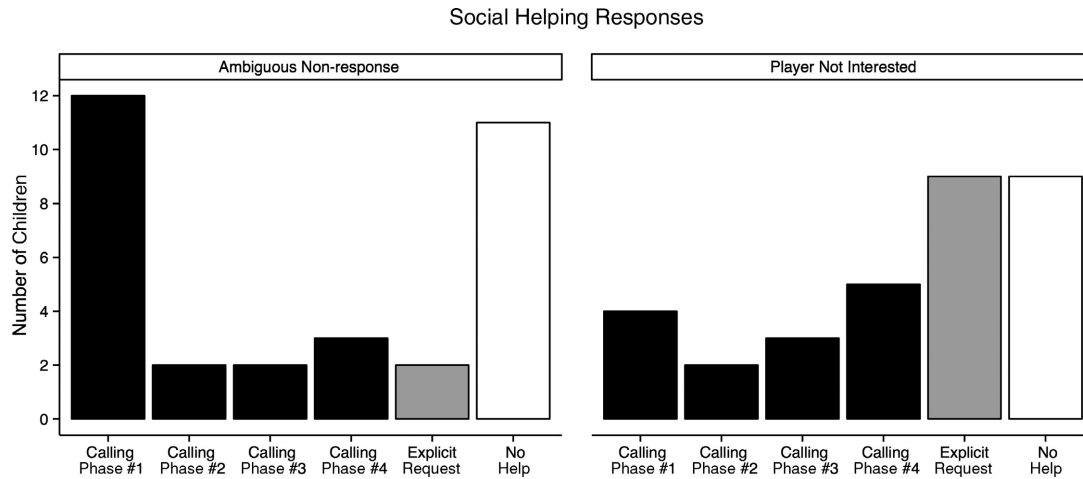


Figure 2. Frequencies of social helping responses in the two social helping conditions.

with the actions that helping required. These findings highlight the broad range of contextual and personal factors that contribute to children's prosocial behavior, leading to more adaptive social decisions.

When the Player's disinterest in attending to the Caller was made clear, children were slower to encourage her to respond. Children thus recognized that helping the Caller would impact the Player and that the Player's social preferences were relevant to their helping decisions. An interesting question for future research is whether children explicitly represented the incompatibility between the Caller's goal and the Player's preferences or whether their sensitivity to this conflict arose implicitly from the challenge of resolving multiple behavioral motivations (i.e., helping the Caller and respecting the Player's wishes).

Receiving a clear statement of the Player's disinterest may have influenced children's behavior in several ways. Possibilities for delayed helping include an internalized value of respect for others' preferences, learned rules about interrupting others, and self-protective motivations. Additionally, children may have simply been averse to approaching the unwilling Player, or they may also have anticipated some of the negative consequences of overriding her preference and exacerbating her conflict with the Caller. Viewed within a decision-making framework (e.g., Gęsiarz & Crockett, 2015), the present study shows that children place a negative value on intervening on a disinterested Player, but it cannot speak to the specific processes through which children determine that value. Like prosocial tendencies more broadly (Eisenberg et al., 2015), the subjective weight that children placed on the

Player's disinterest when deciding to help is likely the product of genetic factors, socialization at multiple levels, and the child's social-cognitive capacities and dispositions.

The present study does offer insight into children's abilities to navigate the conflict between Caller and Player, however. If one person's goal is not supported unanimously, a reasonable strategy might be for children to do nothing at all. Yet two observations suggest that children responded to the conflict between Caller and Player in a more active way. First, although children in the NI condition were slower to inform the Player about the Caller's goal, many did so eventually. Most likely, children were initially uncertain about how to balance the Caller's and Player's wishes. However, the Caller's ongoing efforts provided accumulating evidence for the urgency of her goal. This information, as well as the Caller's eventual request for aid, may have tipped the balance of children's social motivations in favor of helping the Caller. Second, rather than intervene on the Player, a substantial number of children in the NI condition explained to the Caller that she was occupied. These children may have come to the opposite conclusion than those just described. Believing that the Player's disinterest outweighed the Caller's aims, they chose not to help the Caller. Instead, they sought to relieve the tension by explaining to the Caller why her goal was inappropriate—an act that benefitted the Caller overall, even though it did not support her proximate goal. Together, these observations suggest that children's decisions to help were based on a nuanced assessment of different people's interests, the urgency of their respective goals, and a search for recourses that might dispel conflict altogether.

Children's shyness was also associated with their provision of social help. Shyness inhibits approach tendencies, particularly in situations with the potential for negative evaluation (Asendorpf & Meier, 1993). Consequently, shy children may find social helping opportunities particularly intimidating. The absence of an association between shyness and physical helping in this study is consistent with this proposal; however, a direct comparison is limited here by both the fixed order in which physical and social helping occurred and the less structured physical helping sequence (relative to social helping, which featured increasingly detailed explanations). Nevertheless, we note that children typically become increasingly comfortable with experimenters as a study continues (Martin & Olson, 2015). Given the later placement of social helping trials, this observation underscores the robustness of the association between shyness and social helping.

Contrary to our prediction, the association between shyness and social helping was similar across conditions. There are two complimentary ways to view this finding. First, the possibility of the Player's unwillingness to respond in the AM condition may have been just as intimidating to shy children as the certainty of it. Second, shy children may require positive evidence that their approach will be well received, and neither condition offered this reassurance. For either account, it appears that shy children's reluctance to provide social help was based more on a disinclination to approach a third party than a calculation of the odds of meeting a negative response.

Developmental research has convincingly demonstrated that children are motivated to help others. The present study documents two ways in which children's social considerations may limit the expression of prosocial behavior for socially appropriate and adaptive reasons. To fully capture the range of considerations that underlie children's prosocial decisions, researchers should continue investigating children's prosocial decisions in more varied, socially challenging contexts.

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