Intuitions about prosocial backfiring: Four to seven-year olds' understanding of when helping might cause offense

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Abstract

Children are attuned to prosocial behavior from early in development and engage in helpful and cooperative behaviors. However, helping is not always helpful. Decades of research has shown that unsolicited offers of help can threaten the self-esteem of recipients, especially to the degree that recipients perceive themselves as competent. We know that young children view helping positively and appreciate the benefits of helpful actions. To what extent are they also aware of possible harms? Are young children aware that unsolicited offers of help may upset others, especially to the degree that the intended beneficiary is able to perform the task alone? Here, we show that both older (N= 30, mean: 7.02; range 6- 7.97) and younger (N= 30, mean: 4.95; range 4.02-6) children understand that unsolicited offers of help are more likely to upset high than low competent recipients.

Keywords: social reasoning; communication; prosocial behavior

For all our faults, humans are remarkably helpful creatures. Our willingness to assist others with their goals is responsible for many of the successes of our species and the richness of our civilizations (Feigin, Owens, & Goodyear-Smith, 2014; Warneken, 2018). When we help others, we also help ourselves; assisting others promotes our happiness (Aknin, Broesch, Hamlin, & Van de Vondervoort, 2015), enhances our sense of well-being (Midlarsky & Kahana, 1994), and increases our faith in a just world (Lerner, 1977). However, helping is not always a kindness to the recipient. Although helping is primarily associated with positive outcomes, the act of helping also conveys that the person offering help believes that they are more competent than the person receiving it. Thus, recipients may perceive unsolicited help as controlling or intrusive, and receiving help can increase rather than alleviate stress (Lewis & Rook, 1999; Shumaker & Hill, 1991).

Extensive work in social psychology suggests that recipients' reaction to helping depends on whether the offer to help is perceived as supporting or threatening their self-esteem (Deelstra et al., 2003; Fisher, Nadler, & Whitcher-Alagna, 1982; Gergen, Morse, & Bode, 1974; Nadler & Jeffrey, 1986b, 1986a; Tessler & Schwartz, 1972). This perception in turn depends on characteristics of the offer, the helper, and the recipient. Offers of help are more likely to be perceived as ego-threatening if the recipient has no opportunity to repay the favor (Gergen et al., 1974); if the help seems to threaten the recipient's self-concept (Tessler & Schwartz, 1972); if the recipient cannot attribute their need for help to some external factor (Tessler & Schwartz, 1972), and if the helper and recipient are members of a similar demographic with similar resources such that the helper is a relevant target for social comparison (Festinger, 1954; Nadler, Fisher, & Streufert, 1976) . Perhaps paradoxically, helping is especially likely to backfire if it is directed at individuals with high rather than low self-esteem because the implication of relative incompetence is more of a violation of their self-concept (Bramel, Taub, & Blum, 1968; Nadler, Altman, & Fisher, 1979; Nadler & Mayseless, 1983).

In short, social psychologists have long been clear that helping is risky and can cause offense. However, for a number of reasons, children may be unlikely both to experience and understand the potential negative consequences of helping others. Helping is less likely to cause offense in those who feel entitled to it (Greenberg & Westcott, 1983; Roche, 1991) and studies suggest that children feel entitled to help from adults (Morse, 1972). Children are also likely to experience helping in the context of close relationships. Such relationships have lower expectations of equity and reciprocity and in these contexts, offers of help are less likely to be seen as ego-threatening (Clark, 1983; Clark, Mills, & Corcoran, 1989). Help is also perceived as less threatening when it is offered in the context of traditional roles (e.g., parent/child relationships; DePaola and Freedman (1989)) or offered in ways that support recipients' competence and mastery rather than reinforcing messages of inferiority (Nadler & Jeffrey, 1986a; Nelson-Le Gall, 1981; Nelson-Le Gall, Kratzer, Jones, & DeCooke, 1990a); this kind of autonomy-supporting help may be especially likely when directed towards children.

Nonetheless, it is clear that school-age children and adolescents do sometimes experience aversive consequences of receiving help. Children who receive help report negative reactions from others by the ages of six and seven (Newman & Goldin, 1990), and prefer hints to direct assistance by fifth grade (Nelson-Le Gall, 1987; Nelson-Le Gall et al., 1990a; Nelson-Le Gall, Kratzer, Jones, & DeCooke, 1990b). Five to twelve-year-olds judge recipients of help to be less competent than those who did not receive help (Graham & Barker, 1990) and recent work has extended this to group attributions, showing that children believe that groups that receive help are less intelligent (but no less nice) than those that do not (Sierksma & Shutts, 2020). Theoretical accounts suggesting that recipients' reaction to help depends on the degree to which the offer of help threatens the recipients' self-esteem (Nadler et al., 1976) have been extended to children (Shell & Eisenberg, 1992).

Thus, we know that children themselves both experience and inflict negative judgments associated with receiving help. However, we do not know if children go beyond their personal reactions to helping to a generalizable understanding

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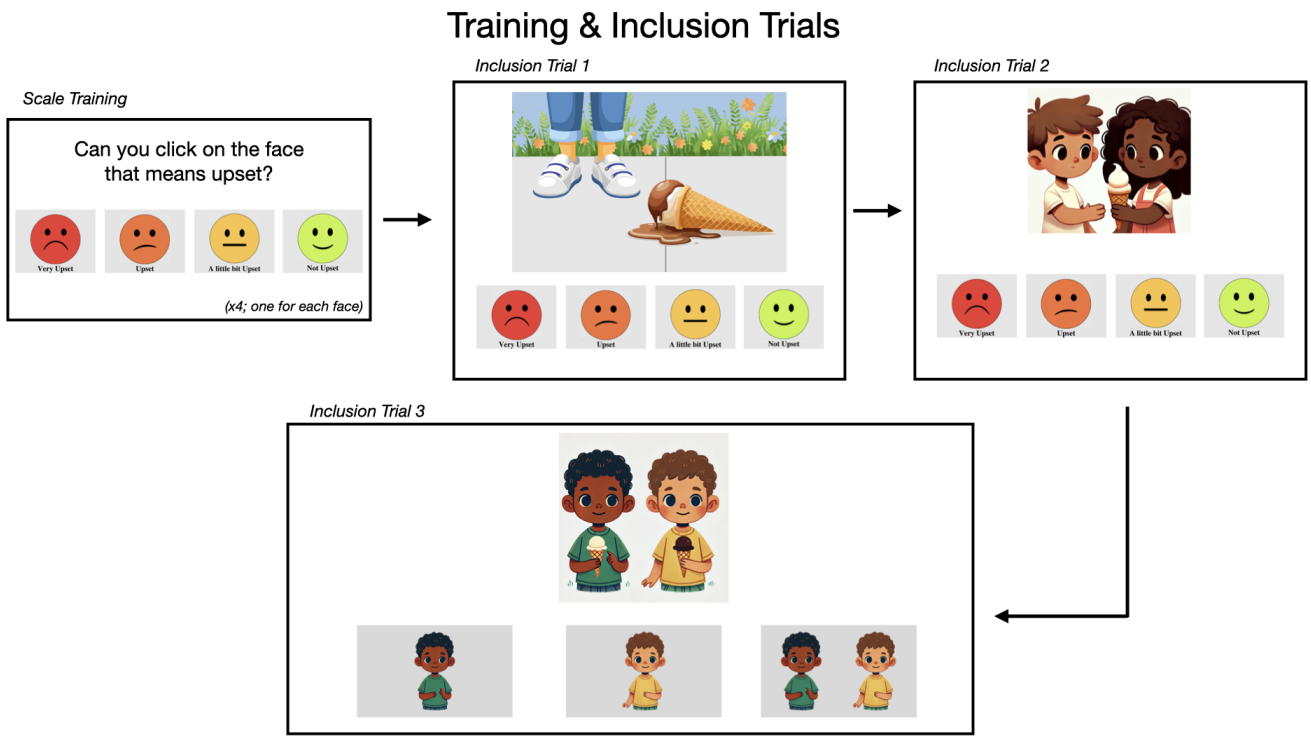

Figure 1: *Training and Inclusion Trials.* Children were first introduced and trained on an upset scale. Children were asked to click on the face that corresponded with the level of upset. Children then viewed three inclusion trials. In the first inclusion trial, children heard a story about a child being pushed and dropping their ice cream cone and were asked how upset the child would be (to which they needed to select "upset" or "very upset" to be included in analysis). Next, children heard a story about two children sharing an ice cream cone (to which they needed to select "not upset" or "a little bit upset" to be included in analysis). Finally, children heard a story about two children who both had one scoop of ice cream and were asked who had more ice cream (to which they needed to select that the two children had "the same" amount of ice cream).

of how others might react to unsolicited offers of help. To our knowledge, no previous work has looked at whether children understand that helping can upset others – and that it will upset others more to the degree that the recipient is competent to perform the task without help. We begin by testing six and seven-year-olds since work suggests that by this age, children both distinguish more and less competent individuals (Magid, DePascale, & Schulz, 2018) and make negative attributions about peers who receive help (Graham & Barker, 1990; Sierksma & Shutts, 2020). Here, we ask whether children expect unsolicited offers of help to be more upsetting to more than less competent recipients. We then follow-up with younger children to see if an understanding of the potential downside of helping emerges even earlier in development.

Experiment 1

Participants

We recruited 30 6- to 7-year-olds (M_{age}: 7.02 yrs, range: 6-7.97; 66% female) on Children Helping Science, an online platform for developmental research. Children participated asynchronously in an automated experiment hosted on the platform in January 2025. To be included in analysis, children had to be within age range, fluent in English, and pass the inclusion trials (see Fig. 1). An additional 3 participants were recruited but excluded from analysis, due to failure to meet inclusion criteria (N = 2) or being outside the age range (N = 1). The sample size, inclusion and exclusion criteria, as well as the hypotheses and analyses were all pre-registered on the Open Science Framework.

Procedure

Participants were told that they were going to hear stories about children, and that in each story the experimenter would need their help to figure out how upset the child would be if they were given help without having asked for it. The stimuli were presented as story-books, and narrated by an experimenter. In each test scenario, a child observed a peer struggling to complete a task. Either the peer was presented as highly competent and an expert at the task or incompetent and a novice at the given task. See Figure 2 for examples. No information was provided about the helper's competency at the task. Each participant saw six scenarios, and the conditions of scenarios were counterbalanced such that in three scenar-

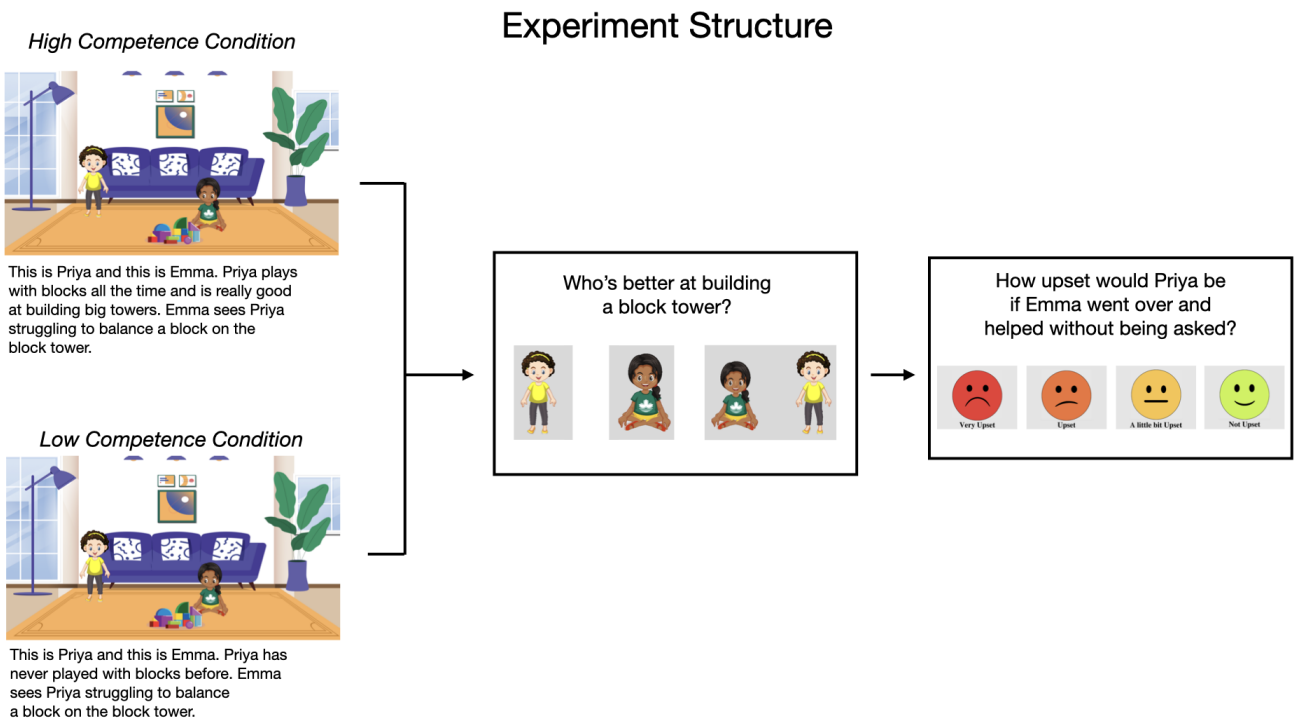

Figure 2: *Experiment Structure.* Children saw a total of 6 stories presented as novel story-books. In each trial, a child protagonist observed a peer struggling to complete a task. Either the peer was highly competent and an expert at the task or incompetent and a novice. Children were then asked who was more competent at the given task, and how upset the person in need of help would be if they were offered help without asking for it.

ios the child struggling was highly competent, and in three scenarios the child was a novice. The order of the conditions was pseudo-randomized, such that participants viewed one of each condition (high or low competence) in the first two trials and two of each condition in the last four trials. The order of stories was randomized across participants.

We designed the stories such that half the recipients would be competent and half not; however, we were also interested in whether children's *own* judgments of the agent's competency would affect their estimate of how upset the recipient would be if offered unsolicited help. Since children might not understand, or might not agree, with our judgments, for each story, child participants were asked (1) who was more competent at the given task (the helper, the recipient, or if they were the same) and (2) how upset the child protagonist would be if the other child provided unsolicited help. Children indicated who they thought was more competent at the given task by selecting one of three options (visually represented by pictures of each protagonist- the helper, the recipient, or both to indicate they were equally competent). Children indicated the amount of upset by selecting a rating along a 4-point scale from "very upset" to "not upset", where each point was represented by a different colored emoji-face ranging from frowning (red) to smiling (green). Children could select the amount of upset by pointing to a face and having their parent click on it, or clicking on the face themselves.

Children received training trials in which they were first introduced to the upset scale and then asked to select the button that corresponded to the particular upset level. Following this training, children also received two inclusion trials in which they were asked how upset a target child would be: a story in which the target child was pushed by another child, and dropped their ice cream cone (to which the child participant should select "upset" or "very upset"), and a story in which the target child shares an ice cream cone with another child (to which the child should select "not upset" or "a little bit upset"). Finally, in the third inclusion trial children heard a story in which two children were holding the same amount of ice cream scoops (to which the child should select they have "the same" amount of ice cream). To be included in analysis, children needed to rate (i) the pushed and dropped ice cream story as resulting in "upset" or "very upset" (the two higher levels of upset on the scale), (ii) the sharing an ice cream cone story as resulting in either "not upset" or "a little bit upset" (the two lower levels of upset on the scale), and (iii) select the same button to indicate two children had the same amount of ice cream. If children understand that helping can cause harm, and may be especially likely to offend recipients when the offer of help implies incompetence at odds with the recipient's actual abilities, then children should rate the high

competent recipients as more upset by the unsolicited offers of help than the low competent recipients.

Results

We conducted an ordinal regression ($rating_{upset} \sim condition + (1|subject) + (1|story)$) using the "*clmm*" package in R to predict participants' responses from a fixed effect of condition (a two-level factor of either "high" or "low" competency) with random intercepts of participant ID and story. Children thought that more competent agents would be more upset than less competent agents when offered unsolicited help ($\beta = 1.23$, 95% CI [0.55, 1.91], z = 3.55, $p < 0.001$; OR = 3.42, 95% CI [1.73, 6.74]).

Additionally, as an exploratory analysis we conducted an ordinal regression ($rating_{upset} \sim rating_{competence} + (1|subject) + (1|story)$) using the "*clmm*" package in R to predict participants' upset responses from their own competency ratings (a three-level factor of helper, recipient, or same) with random intercepts of participant ID and story. Children rated the recipient as more upset when they believed the recipient was more competent than when they believed the helper was more competent ($\beta = 1.49$, 95% CI [0.74, 2.24], z= 3.88, $p < 0.001$; OR = 4.44, 95% CI [2.09, 9.44]). Children also rated the recipient as more upset when they believed that the recipient and helper were equally competent at a task than when they believed the helper was more competent ($\beta = 1.17$, 95% CI [0.15, 2.18], z = 2.25, $p < 0.05$; OR = 3.21, 95% CI [1.16, 8.85]).

Our rating scale went from "not upset" to "very upset". Thus, we did not give children a chance to say that a recipient might be pleased by the offer of help. However, if children genuinely understand that the recipients' competence mediates the effect of helping, then children might think that low-competence agents should not be upset by help at all. If so, children should be more likely to select "not upset" when they think the recipient is low competence than high competence. We did not see evidence for this contrast given our own assignment of agents to condition (High vs. Low competence; chi-squared test p = ns) but we did find this result using the children's own assessment. When children rated the recipient as less competent than the helper, they were more likely to say the recipient would not be upset than when they rated the two agents as the same or the recipient as more competent ($X^2(2, N = 102) = 40.65, p < 0.001$).

Experiment 2

In Experiment 1, we show that six- and seven- year old children think that offers of unsolicited help will be more upsetting to a more competent agent compared to a less competent one. In Experiment 2, we replicate this study with younger children: four- and five- year olds.

Participants

In Experiment 2, we recruited 30 4- to 5-year olds (M_{age}: 4.95 yrs, range: 4.02 to 6; 56% female) on Children Helping Science in January 2025. Similar to Experiment 1, to be included in analysis children had to be: within age range, fluent in English, and pass the same set of inclusion trials. Fourteen additional children participated but were excluded from analysis, due to a failure to meet inclusion criteria (N = 13) or failure to complete the study (N = 1). The sample size, inclusion and exclusion criteria, as well as the hypotheses and analyses were all pre-registered on the Open Science Framework.

Procedure

The procedure of Experiment 2 was identical to Experiment 1.

Results

We note first that there was a high exclusion rate for the younger children: we included only 30 of 43 children recruited. Given the large number of children in this age group who had difficulty even using the Likert scale, the results for the included children should be interpreted with caution.

As in Experiment 1, we conducted an ordinal regression ($rating_{upset} \sim condition + (1|subject) + (1|story)$) using the "*clmm*" package in R to predict participants' responses from a fixed effect of condition (a two-level factor of either "high" or "low" competency) with random intercepts of participant ID and story. In contrast to the six and seven-year-olds, four and five-year-olds did not think high competence recipients would be more upset by offers of help than low competence ones ($\beta = 0.35$, 95% CI [-0.29, 0.99], z= 1.06, $p = 0.28$; OR = 1.42, 95% CI [0.75, 2.69]).

However, although four- and five- year-old children were not sensitive to the experimenter-crafted binary conditions of high and low competence in their upset ratings, there was a significant effect of children's *own* competency ratings on their upset ratings. Again, as an exploratory analysis we conducted an ordinal regression ($rating_{upset} \sim rating_{competence} + (1|subject) + (1|story)$) using the "*clmm*" package in R to predict participants' upset responses from their own competency ratings (a three-level factor of helper, recipient, or same) with random intercepts of participant ID and story. Like the six- and seven-year-olds, four and five-year-olds rated the recipient as more upset when they believed the recipient was more competent than when they believed the helper was more competent ($\beta = 1.35$, 95% CI [0.46, 2.24], z = 2.98, $p < 0.01$; OR= 3.87, 95% CI [1.59, 9.41]). Children also rated the recipient as more upset when they believed that the recipient and helper were equally competent at a task than when they believed the helper was more competent ($\beta = 0.97$, 95% CI [0.07, 1.86], z = 2.12, $p < 0.05$; OR = 2.63, 95% CI [1.07, 6.45]).

By and large, the younger children endorsed our manipulation and agreed that a recipient was more competent than the helper given our cues (e.g. "Max {the recipient} kicks a soccer ball everyday"). However, the four and five-year-olds

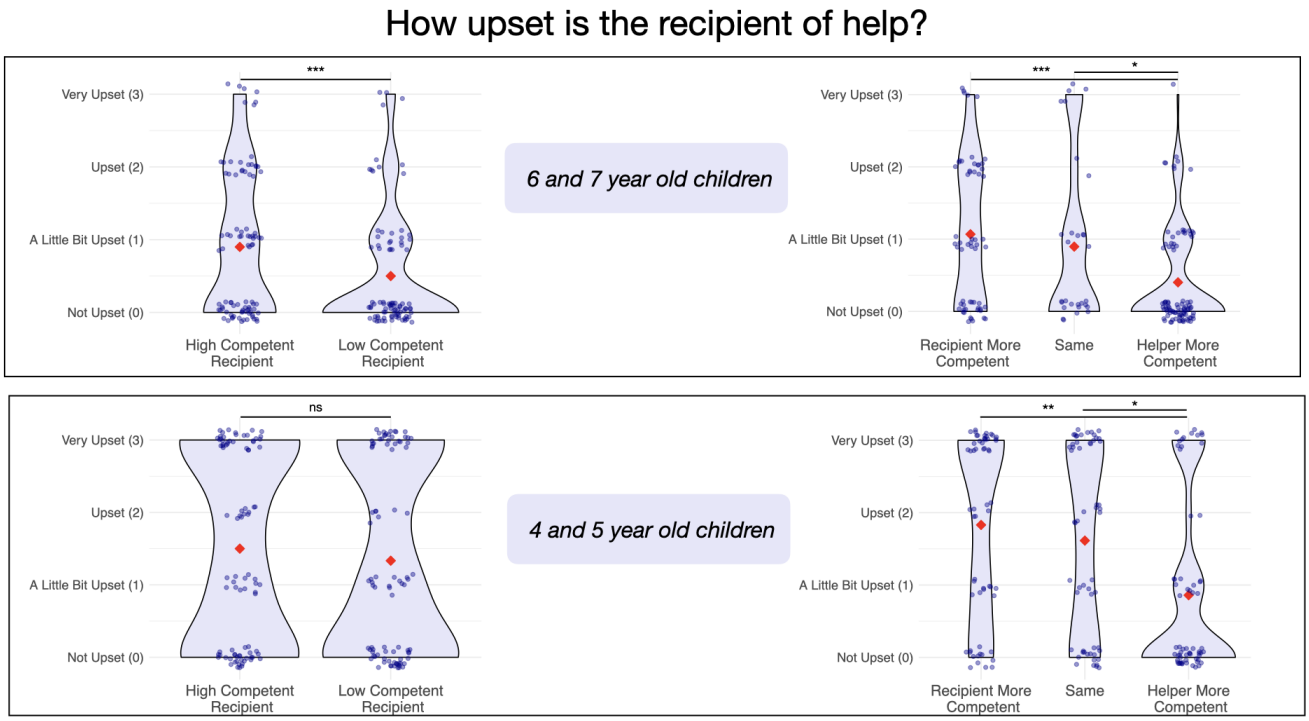

Figure 3: *Experiment Results.* Children's (N = 30 per age group) ratings of upset on a 4-point Likert scale from 0 to 3 based on our assignment of High and Low Competence stories (left) and on their own competency ratings (right). Dots are individual ratings (6 responses per subject). Red diamonds represent means.

were more likely to rate the helper and recipient as equally competent in the stories where we intended the recipient to be less competent (i.e., four and five-year-olds rated the characters as equally competent in these stories 31% of the time; six and seven-year-olds only 8% of the time). That is, younger children did not seem to understand that characters who were new to a task would probably be less competent (e.g., "Max has never kicked a soccer ball before"). Critically however, while the younger children were less sensitive to our competence cues than the older children, they were no less able to integrate their *own* competence judgments into their estimates of how upset the recipient of unsolicited help would be: Four and five-year-olds believed that more competent recipients would be more upset by the offers of help. When children rated the recipient as less competent than the helper, they were more likely to say the recipient would not be upset than when they rated the two agents as the same or the recipient as more competent ($X^2(2, N = 69) = 13.13, p < 0.01$).

Collapsing across these two experiments, there was no interaction between age and condition. That said, children's overall upset ratings decreased with age (experimenter-crafted condition model: $\beta = -0.06$, z = -2.84, $p < 0.01$; children's own competency model: $\beta = -0.05$, z = -2.69, $p < 0.01$). Mean ratings by condition among age groups further highlight this decrease: the average ratings of older children are consistently lower than those of younger children (low: M_{older} : 0.5, $M_{younger}$: 1.3; high: M_{older} : 0.9, $M\_younger$: 1.5). Older children appear to be more likely than younger children to recognize that in the grand scheme of upsetting events, being offered unsolicited help is not *that* upsetting.

Discussion

To our knowledge, this is the first study to show that young children can reason about the ways that helping might harm intended beneficiaries, and that they do so in graded ways, sensitive to how helping might differentially impact high and low competent recipients. The results of these two experiments show that children as young as four and five are sensitive to the fact that a more competent protagonist will be more upset by an unsolicited offer of help than a less competent protagonist – and that less competent recipients are less likely to be upset at all than more competent ones.

The current results suggest that children understand that helping may harm recipients – especially those already competent to perform a task. But does this understanding affect children's behavior? Do young children ever hesitate to help others out of a fear that they might upset their intended beneficiary? Future work might look at whether children's understanding that helping might be offensive informs their decision-making – and whether children might be especially cautious about offering help to competent social partners.

In the current study, we never specified what *kind* of help the helper might offer. In principle, the help could have been either words of encouragement or instrumental help; similarly, the help could have been supportive, empowering help (providing strategies or scaffolding) or simply taking over the task. Prior work has shown that six to nine-year-olds understand that peers who receive empowering help (scaffolding) learn more than peers who received non-empowering help (taking over or solving the problem; Sierksma, 2023). Additionally, children are more likely to provide answers than strategies to less versus more competent peers, curtailing learning opportunities and reinforcing competence-based inequalities (Sierksma, 2023). These findings suggest that unsolicited offers of non-empowerment help should be even *more* offensive than offers of empowerment help. Alternatively, however, there may be something especially condescending about scaffolding a task for a peer (who is competent and already knows what they're doing) and children might think that empowerment offered to highly competent peers might be especially likely to offend. Future research might investigate the interaction between children's judgments of agents' competence, the kind of help being offered, and the risk of upsetting the recipient.

In adults, offering help to a member of a group already subject to stereotype threat (Aronson, Quinn, & Spencer, 1998; Spencer, Logel, & Davies, 2016; Steele & Aronson, 1995), may be especially likely to trigger feelings of inferiority (Nadler et al., 1976). We know that social stereotypes also impact children's assessments of agents' competence (Copping, Kurtz-Costes, Rowley, & Wood, 2013; Kinzler, Corriveau, & Harris, 2011). Children view less affluent peers, individuals from disadvantaged groups, and speakers with non-native accents as less competent (Copping et al., 2013; Désert, Préaux, & Jund, 2009; Kinzler et al., 2011; Rowley, Kurtz-Costes, Mistry, & Feagans, 2007; Shutts, Brey, Dornbusch, Slywotzky, & Olson, 2016). Do children recognize that unsolicited offers of help may be especially likely to offend recipients if they are part of a group subject to these stereotypes?

In showing that children are aware that offering help can sometimes be upsetting, this work suggests the nuance with which children think about how to best advance the welfare of others. In a world with no shortage of careless, indifferent, and outright antisocial acts, we find it heartening that young children recognize the risks associated with even well-intentioned actions and understand that those risks are greater in some contexts than others.

Open Science

Both experiments were pre-registered and can be accessed at this link: `https://osf.io/mzdxv/?view_only=b08cfc93db754d028ff9ffef79e6320f`.

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