

BRIEF REPORT

Young Children Sympathize Less in Response to Unjustified Emotional Distress

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Three-year-old children saw an adult displaying the exact same distress in 3 different conditions: (a) the adult's distress was appropriate to a genuine harm, (b) the adult's distress was an overreaction to a minor inconvenience, and (c) there was no apparent cause for the adult's distress. Children who witnessed the adult being appropriately upset showed concern for him, intervened on his behalf, and checked on him when he later expressed distress out of their view. Children who did not know the cause for the adult's distress responded similarly. In contrast, children who witnessed the adult overreacting to an inconvenience showed lower rates of intervening and checking. The degree of children's concern across conditions was correlated with the latency of their helping behavior toward the adult later. These results suggest that from an early age, young children's sympathy and prosocial behavior are not automatic responses to emotional displays but, rather, involve taking into account whether the displayed distress is justified.

Keywords: emotion understanding, sympathy, unjustified distress, prosocial behavior

Supplemental materials: <http://dx.doi.org/10.1037/a0029501.supp>

Empathizing and sympathizing with others is foundational to the kinds of cooperative social interactions that characterize the human species. These social-emotional responses emerge early in human ontogeny and underlie many of young children's early social relations and prosocial behaviors.

Almost all existing research on the ontogeny of empathy and sympathy has assessed children's responses to overt emotional cues and shown that when presented with a person displaying pain or distress, infants as young as 14 months of age show negative affect that is resonant with the victim's affect (empathy) as well as concern for the victim (sympathy) and attempt to alleviate the victim's distress by comforting, helping, or sharing with her (Ungerer et al., 1990; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992; Zahn-Waxler, Robinson, & Emde, 1992). Indeed, young children's empathy and sympathy relate positively with

their prosocial behavior (Eisenberg & Miller, 1987; Hoffman, 1982), suggesting that empathic and sympathetic responses serve as prosocial motives.

The question that arises is whether children respond automatically to others' emotional displays or whether they also cognitively assess the context in which the emotions occur. That is, do children inflexibly sympathize with someone showing distress, or do they also take into account *why* the person is in distress?

Evidence that young children's empathy and sympathy are not tied inflexibly to the perception of emotional displays was provided by Vaish, Carpenter, and Tomasello (2009). In a procedure adapted from Hobson, Harris, García-Pérez, and Hobson (2009), Vaish et al. (2009) tested 18- and 25-month-old children in two conditions. In the harm condition, one adult destroyed a second adult's picture, whereas in the control condition, she destroyed a neutral object. In both conditions, the victim did not display any emotional cues but simply maintained a neutral facial expression. Nevertheless, children showed more concerned looks and more subsequent prosocial behavior toward the victim in the harm condition compared to the neutral condition. Vaish et al. concluded that participants sympathized with the victim through some form of affective perspective taking.

Therefore, young children can sympathize when the victim shows no distress cues. However, when a person *does* display distress cues, do children sympathize automatically with that person or is their sympathy cognitively sophisticated such that they are more likely to sympathize when the distress is justified? In other words, are a person's overt distress cues sufficient to elicit sympathetic responses in children or do the distress cues also have to be "reasonable?" This cognitive

This article was published Online First August 13, 2012.

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We thank all the children and parents who participated in the study; Jana Jurkat for her help with data collection; Roger Mundry for his help with statistics and for his comments on an earlier version of the article; and Nadine Biermann, Antonia Misch, Vladimir Baboi, and Susanna Jorek for their help with coding. This research was partially supported by a grant from the DFG (German Research Foundation) Excellence Cluster 302: Languages of Emotions.

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dimension of sympathy was already noted by Adam Smith (1759/1994), who argued that the human ability to sympathize depends on a general responsiveness to another's display of feelings and our apprehension of the situation, including the causal antecedents of such feelings. Smith further argued that our concern for another's distress is genuinely sympathetic if we deem the displayed emotions to be reasonable and justified given the context they occurred in.

Work with children on this topic is very limited. However, in a recent study, Leslie, Mallon, and DiCorcia (2006) presented 4-year-olds and children with autism a story in which two individuals are each given one cookie that the teacher permits them to eat. Children were asked whether it was acceptable for one individual to eat her own cookie even if this made the other individual, who wanted to eat both cookies, cry. Both groups judged this action to be acceptable, despite the fact that the second individual was sad. In contrast, when children heard a story in which an actor was sad because another actor had truly harmed her (i.e., justifiably), children from both groups judged the action to be unacceptable. These results suggested that children take into account the context in which a distress response occurs. However, it remains unclear whether children actually sympathize differentially with justified versus unjustified distress, and how this might relate to their prosocial behavior toward the distressed individual.

In the present study, therefore, we assessed 3-year-old children's sympathetic and prosocial responses toward an individual displaying the exact same distress for justified or unjustified reasons. In a procedure adapted partly from Hobson et al. (2009) and Vaish et al. (2009), children viewed situations in which an adult recipient of harm displayed distress in response to experiencing either very minor harm (minor-harm condition) or substantial harm (harm condition). Since these two conditions differed not only with respect to the justifiableness of the distress but also the degree of harm the recipient experienced, we devised a third condition (no-visible-harm condition) in which the recipient had been caused no perceivable harm, but he displayed the same distress as in the other two conditions "out of the blue"; that is, in this condition, the child did not know the cause of the recipient's distress.

If children respond indiscriminately to distress displays regardless of how justifiable the distress is, then their responses to the recipient should not differ across the three conditions since the recipient's distress cues are the same across conditions. Furthermore, if children respond only to the amount of perceived harm caused to the recipient, then their responses to the recipient should vary as a function of the degree of perceived harm. However, we predicted that children would be sensitive to the relation between harm and emotional distress and would consider the appropriateness of the distress in relation to the harm, leading them to be less responsive if the distress was disproportionate to the degree of harm.

Method

Participants

Participants were 3-year-old children ($n = 48$, 24 girls) between 3 years and 3 years 3 months ($M = 37$ months 21 days, $SD = 25$ days; range = 36 months 3 days to 38 months 29 days). Six

additional children were tested but excluded due to fussiness or inattentiveness during the sympathy situations ($n = 5$) and the prosocial task ($n = 1$).

Design

Each child was randomly assigned to one of three conditions and saw three sympathy situations: physical harm, property harm, and distributional harm (always in this order). In the first sympathy situation, two experimenters—i.e., the future recipient of harm (henceforth 'recipient') and E2—and the child sat at a table and played with a cardboard box containing two toys. In the second situation both experimenters drew and presented drawings on pieces of paper. During the third situation both experimenters played a marble game that involved sliding marbles down a slope. The sympathy situations were followed by two additional tasks: the checking task, in which a screen visually separated the recipient from the child, and a prosocial task, in which two air-filled balloons were given to the child and a helium-filled balloon was given to the recipient.

Procedure

At the beginning, the study was explained to the parents and their informed consent was obtained. Parents were asked not to provide their child with any cues during the study.

First sympathy situation (physical harm). The two experimenters and the child played a game of retrieving toys from a box. At one point, the recipient directed the child's attention to the box and moved his hand into the box to retrieve a second toy. Just as he took his hand out of the box, E2 surreptitiously shut the box such that the recipient's hand was just outside the box. The recipient then said, "Look, look! The box's lid just closed! If I catch my fingers in that box, it really hurts me." This "familiarization" was done to ensure that children clearly understood the premise of the sympathy situation. During the familiarization phase the recipient's facial expressions and voice were positive and engaging. The game was continued until E2 placed the toy back in the box. At this point the experimental manipulation began. In the harm condition, the recipient reached into the box for a toy, and this time, the lid closed and caught his fingers. In the minor-harm condition, the lid closed but only caught the recipient's sleeve. In the no-visible-harm condition, E2 retrieved an object from the box and the child and E2 turned away from the situation to examine the object; the lid of the box remained open. In all three conditions, the recipient then started to express the same mild distress cues, which consisted of furrowed brows, pouted lips, and whimpering. During this presentation, E2 was turned away from the table and pretended to read something. After she directed her attention back to the scene, she opened the lid for the recipient in the harm and minor harm condition. In all three conditions, the recipient then stopped displaying distress and said, "There! All better again!" and smiled.

Second sympathy situation (property harm). E2 took out a picture that "she had drawn" and the recipient then announced that he would draw a similar picture. After E2 cut her picture in half with a pair of scissors, the recipient asked her to show him how she had done this. E2 then cut a blank piece of paper in half. The recipient directed the child's attention to the paper and said: "Look

at how that paper got cut in half! Good thing the picture didn't belong to me! If my picture gets cut in half, I don't like that at all!" (familiarization phase). Subsequently, the recipient continued drawing his picture. At this point, the experimental manipulation began.

In the harm and minor-harm condition, E2 cut vertically through the middle of another picture of hers and the recipient asked her to show him on his picture the same action she had just completed on her own picture. In the harm condition, E2 cut horizontally through the recipient's entire picture, thus destroying it. In the minor-harm condition, E2 made just a minute cut on one edge. In the no-visible-harm condition, E2 cut through her paper and dropped one half of it on the floor, briefly guiding the child's attention away from the situation. In all three conditions, the recipient then began expressing the same distress as in the first sympathy situation while E2 was turned away from the table. When E2 directed her attention back to the scene, she cleared the paper from the table and introduced a third game.

Third sympathy situation (distributional harm). E2 placed a marble game on the table and demonstrated, together with the recipient, that the game consisted of releasing some marbles at the top, which rolled downward and made a fun noise. The marbles were located in a bowl that only E2 had access to. In the familiarization phase, E2 distributed marbles between herself and the recipient (three each), and the recipient stated that he would not like it if he had no marbles to play with. Both experimenters continued to play the game in turn. At this point, the experimental manipulation began.

In the harm condition E2 retrieved six marbles from the bowl and gave them to herself. She then found three more marbles, which she also gave to herself, leaving the recipient no marbles to play with. In the minor-harm condition, E2 retrieved the six marbles from the bowl and gave herself and the recipient three each. Of the three additional marbles, she gave herself and the recipient one marble each, and then kept the last marble for herself. In the no-visible-harm condition, E2 retrieved the six marbles and gave three to the recipient and three to herself. She then directed the child's attention to the three additional marbles she had found. In all three conditions, the recipient then began expressing the same distress as in the other two sympathy situations while E2 was turned away from the table. When E2 turned back to the scene she allowed children to play with six marbles, which kept children engaged in the study.

Checking task. The recipient and the child sat separated by a screen, each playing a game consisting of stacking blocks. About 5 s into the game, the recipient started expressing the same distress cues he had displayed during the sympathy situations. If during the subsequent 30 s, the child got up to check on the recipient, the trial was ended.

Prosocial task. For the final, prosocial task, E2 handed two air balloons to the child and one helium balloon to the recipient. After 40 s, the recipient "accidentally" let go of his balloon, which floated to the ceiling. He "attempted" to retrieve the balloon, showing a sad facial and vocal expression. For the following 2 min, he repeatedly looked to his balloon whilst expressing sadness and commenting on the situation. The trial was ended earlier if the child shared one of her balloons.

Coding and Reliability

A manipulation check was conducted on a random sample of 25% of the participants ($n = 36$ trials) to ensure that the recipient's emotion during the sympathy situations was the same across conditions. A second coder (blind to condition and hypotheses) correctly identified the condition in 39% of cases (chance $\sim 33.33\%$), indicating that the accuracy was at chance, two-tailed binomial test ($p = .48$).

The primary coder, who was blind to condition for half the trials, coded 100% of all trials for all response variables. The coding scheme for children's looks during the sympathy situations was derived from previously published studies (Hobson et al., 2009; Vaish et al., 2009). For each trial, the duration and quality of children's first looks to the recipient was coded using three categories: concerned, checking, and other looks (see Table 1 for details). We chose to code only the quality of first looks, since this resembled the children's initial emotional reaction, and children's subsequent looks might have been attributable to other reasons (e.g., the fact that E2 was not reacting to the situation).

Any given trial was assigned only one type of look. A second coder (blind to condition and hypotheses) coded all looking measures on a random 25% of the participants. Reliability was high between the primary and second coders for the duration of first looks (intraclass correlation coefficient [ICC] = .95) and for the quality of first looks ($\kappa = .74$). The primary coder also coded children's intervening behavior during the sympathy situations. Reliability was assessed by a second coder (blind to condition) on a random one third of the participants and reached $\kappa = .98$.

In the checking task, the primary coder coded children's behavior during the trial duration of approximately 30 s or, if the trial ended earlier (because children attempted to go behind the screen), the full trial length. We were interested in whether children would demonstrate concern when the recipient started displaying distress behind the screen, either by getting up to check on the recipient or by looking more often in the recipient's direction or at E2 than at their game. A second coder (blind to condition) assessed the reliability, resulting in $\kappa = .78$. For the prosocial task, the primary coder coded the latency of children's first helping behavior (see Table 2). Reliability, assessed by a second coder (blind to condition), reached ICC = .99.

A more detailed description of the methods as well as additional details regarding the coding is presented in the supplemental materials.

Results

To control for multiple testing, we computed a Fisher's omnibus test, which combines individual p values into a single chi-square-distributed variable with degrees of freedom equaling twice the number of p values, in combination with a permutation procedure (Adams & Anthony, 1996; Haccou & Meelis, 1994; Manly, 1997). To take into account that the p values in the subsequent analyses were not independent, we randomized subjects' assignments to the conditions and computed the overall χ^2 value 1,000 times to generate a distribution of χ^2 values under the assumption of the null hypothesis being true (e.g., Potter & Griffiths, 2006). The final p value obtained was .002, indicating a significant condition effect in at least one response measure, hence justifying separate analyses for each response measure individually.

Table 1
Coding Scheme for the Quality of Children's First Looks During the Sympathy Situations

Category	Criteria/Description
Concern	1. Furrowing of or making a serious expression with the brows 2. Sad expression in the eyes 3. Forward tilt, ducking down of the head and looking upwards while keeping a still posture 4. Showing interpersonal contact with the recipient different to before he showed distress
Checking	Characterized by the child not showing any interpersonal contact with the recipient. Rather, checking looks were meant to assess the situation and to anticipate what might happen next. The overall facial expression of a checking look was neutral and was not different to before the recipient started displaying distress. This category was similar to the category of "hypothesis-testing" in other studies (e.g., Zahn-Waxler, Radke-Yarrow et al., 1992; "cognitive empathy" in Roth-Hanania, Davidov, & Zahn-Waxler, 2011).
Other	Looks that were neither checking nor concerned (i.e., looks including smiling at recipient, laughing, showing shame or embarrassment). In addition, looks which were accompanied by gestures such as touching the hair, rubbing eyes, hiding behind hands, putting the hand in the mouth and biting on the fingers, and fast opening and closing of the mouth. Finally, looks which included biting, pressing down the lips or tongue or making a painful/sad expression with the mouth.

Note. For a look to be coded as concerned, at least two "concern" criteria had to apply.

Sympathy Situations: Quality of Looks

Given that we had no specific predictions about the category of other looks, they were not analyzed and are not discussed further. Each child was assigned two values: the number of trials (out of three) on which the facial expression was coded as "concerned" and on which it was coded as "checking." The pattern of children's quality of looks is illustrated in Figure 1.

To investigate the effects of condition and gender on the number of concerned trials, we computed a two-way analysis of variance (ANOVA) with condition and gender as between-subjects factors. There was neither an interaction effect between condition and gender ($p = .32$), nor a main effect of gender ($p = .76$). However, the analysis revealed a significant main effect of condition, $F(2, 42) = 3.65, p = .035$. Post hoc Mann-Whitney U tests showed that children in the harm-condition ($M = 1.31, SD = 1.14$) demonstrated concern on significantly more trials than children in the no-visible-harm condition ($M = 0.44, SD = 0.81; U = 186, p = .02$). There was no statistically significant difference between the harm and minor-harm ($M = 0.75, SD = 0.77$) conditions ($p = .17$), or between the minor-harm and no-visible-harm conditions ($p = .20$).

Table 2
Summary of the Percentage of Children Who Showed the Respective Prosocial Behaviors as Their First Helping Response During the Prosocial Task

Category	Harm	Minor harm	No harm
Making suggestions for E1	6.25	6.25	12.5
Notifying other experimenter	43.75	25	18.75
Notifying parent	6.25	18.75	12.5
Sharing balloon	25	6.25	12.5
No help	18.75	43.75	43.75

Note. E1 = Experimenter 1.

To investigate the effects of condition and gender on the number of checking trials, we computed a two-way ANOVA with condition and gender as between-subjects factors. There was neither an interaction effect between condition and gender ($p = .68$), nor a main effect of gender ($p = .62$). However, the analysis revealed a significant main effect of condition, $F(2, 42) = 3.70, p = .033$. Post hoc Mann-Whitney- U tests showed that children in the no-visible-harm condition ($M = 1.81, SD = 1.28$) demonstrated checking looks on significantly more trials than children in the harm condition ($M = 0.75, SD = 1.065; U = 188.5, p = .015$). In

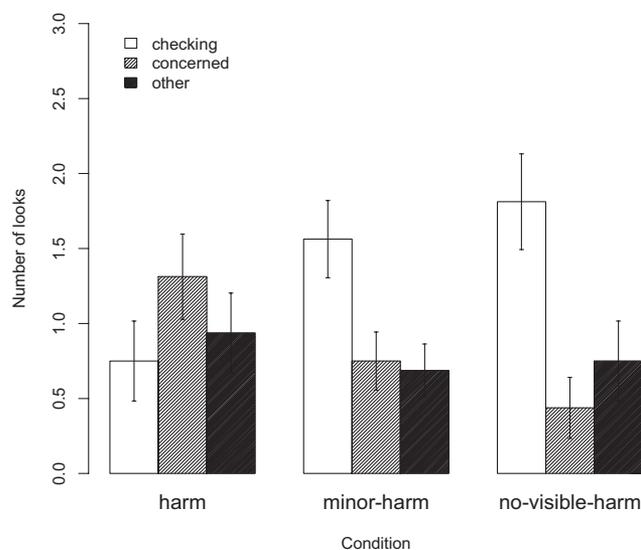


Figure 1. The number of sympathy situations in which children showed each quality of look (first looks only) to the recipient after he started displaying emotional distress. Error bars refer to the standard error for each quality category within each condition.

addition, there was a statistically significant difference between the minor-harm ($M = 1.56$, $SD = 1.031$) and harm conditions ($U = 184.5$, $p = .025$). There was no statistically significant difference between the minor-harm and no-visible-harm conditions ($p = .51$).

Sympathy Situations: Intervening

There was an overall effect of condition on the proportion of children who intervened at least once during the sympathy situations, $\chi^2(2, N = 48) = 6.5$, $p = .039$ (see Figure 2A). Significantly more children intervened at least once in the harm condition (11 children, or 69%) than in the minor-harm condition (four children, or 25%), Fisher's exact test ($N = 32$, $p = .032$). There was no statistically significant difference between children's intervention in the harm condition compared to the no-visible-harm condition (nine children, or 56%; $p = .72$) and no significant difference between the minor-harm and no-visible-harm conditions ($p = .15$).

Checking Task

Overall, there was a significant effect of condition on children's checking behavior, $\chi^2(2, N = 48) = 8.3$, $p = .016$ (see Figure 2B). As predicted, a significantly greater number of children checked on the recipient in the harm condition (85%) than in the minor-harm condition (33%), Fisher's exact test ($N = 28$, $p = .009$). There was no statistically significant difference in checking between the harm and the no-visible-harm conditions (69%; $p = .41$), and a statistical trend between the minor-harm and no-visible-harm condition ($N = 31$, $p = .076$).

Prosocial Task

In the prosocial task we were interested in the latency with which children initiated their first helping behavior toward the

recipient. As the data were skewed, we used a nonparametric Kruskal-Wallis test with condition as a factor and children's latency to help as the dependent measure. This revealed a significant effect of condition, $\chi^2(2, N = 48) = 6.35$, $p = .042$. Mann-Whitney-U tests showed that the average latency to help the recipient was significantly lower for children in the harm condition ($M = 33$ s, $SD = 43$) compared to children in the minor-harm condition ($M = 66$ s, $SD = 51$; $U = 182.5$, $p = .037$). In addition, children in the harm condition were also faster to help the recipient compared to the no-visible-harm condition ($M = 70$ s, $SD = 50$; $U = 186$, $p = .026$). There was no statistical difference between children's latency in the minor-harm and no-visible-harm conditions ($p = .93$).

Correlation Between Concerned Looks and Prosocial Behavior

Finally, we found a negative correlation between the number of situations in which children showed concern and the latency to help in the prosocial task (Spearman's $\rho = -.29$, $p = .042$), indicating that more concern during the sympathy situations was associated with a faster response to initiate the first helping behavior during the prosocial task.

Additional analyses of the duration and quality of children's first looks during the sympathy situations are provided in the supplemental materials.

Discussion

In the current study, 3-year-old children viewed a person displaying the exact same distress in one of three contexts: when the distress was justified, when it was unjustified, and when the cause of the distress was unknown. The main finding was that children did not simply automatically sympathize with the display of dis-

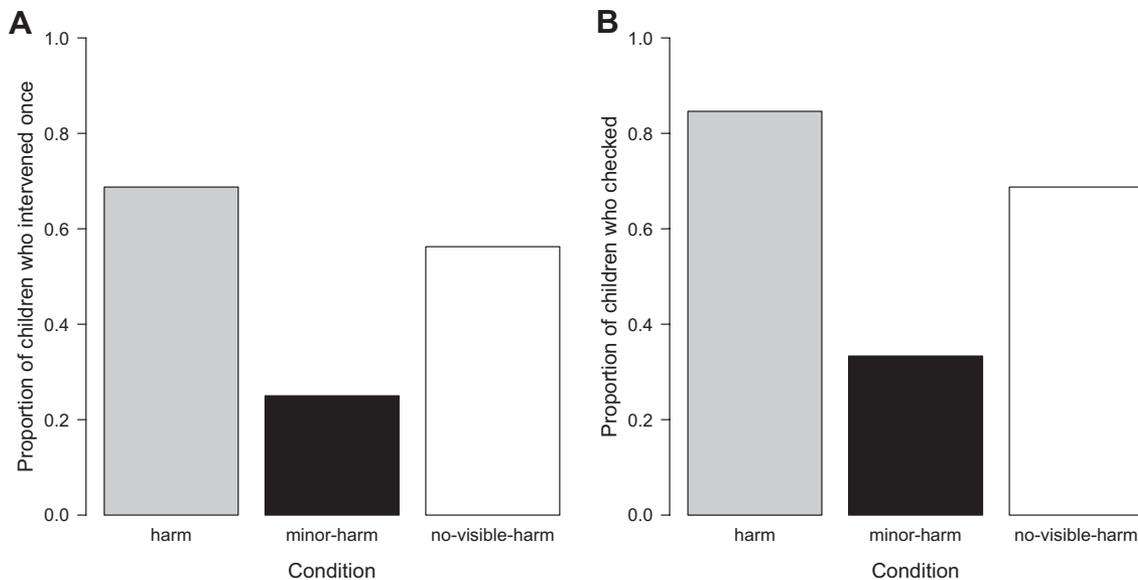


Figure 2. A: The proportion of children who intervened on behalf of the recipient during at least one sympathy situation. B: The proportion of children who demonstrated checking behavior after the recipient started displaying distress behind a screen during the checking task.

tress, nor did they respond only to the degree of perceived harm. Rather, children showed differential responding depending on the appropriateness of the distress in relation to the context. Thus, children who viewed a recipient being justifiably sad showed concern for him, intervened on his behalf during the sympathy situations, and checked on him when he later displayed distress out of their view. Furthermore, when children did not know the reason for the recipient's distress, they nevertheless responded with similar rates of intervening during the sympathy situations and later checking behavior toward the recipient as when the recipient's distress was justified. The critical difference was that children intervened and later checked much less often when they viewed the recipient as being unjustifiably sad.

Children also sympathized differently with the recipient depending on the context of the distress: As predicted, those who saw the recipient being justifiably sad responded with a concerned facial expression on more trials than children in the other two conditions, whereas those who did not know the reason for his distress or who witnessed only minor harm showed predominantly a checking facial expression, presumably trying to assess the cause for the recipient's emotion. Together, these results strongly suggest that even early in ontogeny, sympathy is a flexible response that includes cognitive evaluations such as whether the cause of the person's distress justifies her response.

Previous studies had provided evidence for children's affective responses toward victims who display overt emotional distress cues after being harmed (Bischof-Köhler, 1991; Eisenberg & Fabes, 1990; Zahn-Waxler, Radke-Yarrow, et al., 1992). A truly sympathetic response, however, requires not only responding to another's distress but also taking into account the context in which that distress occurs (Lamm, Batson, & Decety, 2007; Lamm, Nusbaum, Meltzoff, & Decety, 2007; Smith, 1759/1994). Our study provides the first evidence that children's cognitive evaluations regarding the reasonableness of another's distress influence their feelings of concern and their prosocial behavior toward that person.

Consistent with our results, a recent study had suggested that by the age of 4 years, children are able to recognize whether an actor's actions were morally wrong independently of whether the recipient displayed distress or not (Leslie et al., 2006). Such appraisal processes may have their roots in early developing cognitive markers of empathy, such as inquiry behavior, in infants as young as 8 to 10 months (Roth-Hanania, Davidov, & Zahn-Waxler, 2011; see also, Moreno, Klute, & Robinson, 2008). More sophisticated cognitive skills may develop from such early markers, including processes such as affective perspective-taking by 2 years of age (Vaish et al., 2009) and even more complex role-taking capacities after the age of 5 years (Hobson et al., 2009), to allow children to sympathize with others in the absence of emotional cues. The results of the present study go beyond this prior work and suggest that 3-year-old children's sympathetic appraisals also take into account the appropriateness of the emotional distress, providing additional evidence for cognitively flexible sympathy early in development. Future research is needed to investigate whether children's sympathetic responses also dissociate in terms of more versus less immediate appraisals. For example, children with autism may respond less with anticipatory concern when others are harmed (Hobson et al., 2009), but they may nevertheless correctly

judge the permissibility of moral actions after deliberation (Leslie et al., 2006).

One may wonder what explains the "U-shaped" pattern, across the three conditions, of children's intervening behavior during the sympathy situations. How could children's behavior in the harm and no-visible-harm condition be so similar if their emotional responses during the sympathy situations showed different patterns? One possibility is that those children who viewed the recipient being justifiably sad were genuinely motivated to intervene out of a sympathetic feeling toward him. On the other hand, children in the no-visible-harm condition had no reason to not intervene or later check on him. That is, since these children did not know the cause of the recipient's distress, they had no reason not to take his emotion seriously as a signal of genuine distress. Similar interpretations also apply to the "U-shaped" pattern found across conditions in children's behavior in the checking task. Those who saw the adult being justifiably sad during the sympathy situations checked on him when he was sad behind a screen because they were previously given every reason to believe that the emotional distress signaled that genuine harm had been caused. On the other hand, children who did not know the cause of the recipient's distress during the sympathy situations had no reason not to take it seriously when he was later distressed behind a screen. Children's reduced checking in the minor-harm condition may be explained by the fact that the recipient's emotion was not a trustworthy signal of the degree of his plight and was thus not sufficient to elicit concern (checking) behavior in a situation where the source of the emotion was concealed.

While the rates of children's intervening during the sympathy situations and later checking behavior are similar in the harm and no-visible-harm condition, the degree of children's helping during the final prosocial task is different between those two conditions. In this final task, the marked case is the one in which children had seen the recipient being justifiably sad during the sympathy situations. The fact that the degree of children's concern during those situations was negatively associated with the latency of children's first helping behavior during the final prosocial task may explain why children in the harm-condition were faster to help the recipient in this task. Furthermore, for children in the harm condition, the recipient's justified distress in the prosocial situation was consistent with what they had learned about the recipient during the sympathy situations; for children in the minor-harm and no-visible-harm conditions, however, seeing the recipient justifiably distressed was inconsistent with what they had learned about the recipient during the sympathy situations and was thus novel. Children in those two conditions thus likely needed more time to grasp this new situation and to reevaluate the recipient's behavior in order to then respond appropriately to it.

In summary, young children do not automatically respond sympathetically to distress cues but are sensitive to the situation in which distress occurs and evaluate the context to modulate their sympathy responses. Our findings thus show that humans early in their development show flexibility and sophistication in their sympathy response. This remarkable ability makes sense given the importance of empathic and sympathetic responses for human social bonds and interactions.

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Received November 25, 2011

Revision received April 30, 2012

Accepted June 4, 2012 ■