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Action Perception and Outcome Valence: Effects on Children's Inferences of Intentionality and Moral and Liking Judgments

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ABSTRACT. The influences of different action–outcome scenarios on children's evaluative judgments and inferences of outcome intentionality were assessed. One hundred forty-five kindergartners, 2nd graders, and 4th graders heard 4 stories about child actors who engaged in 1 action or 3 equifinal actions and caused a positive or negative outcome. The stories made no mention of the actors' anticipated outcome so that we could assess the children's inferences of whether the actors wanted and had tried to cause the outcome. Children also rated their liking for the actors and the actors' morality. Children's moral and liking judgments were not significantly differentiated by action condition. However, actors who caused positive outcomes received favorable liking and moral judgments, and actors who caused negative outcomes received neutral liking and moral judgments. Children's intentionality inferences varied by the actors' actions and were moderated by outcome valence. The authors discuss children's apparent use of the valence rule when inferring intentionality and their reluctance to judge harshly actors who cause negative outcomes when not privy to the actors' intentions.

Key words: action perception, intentionality, morality

THE INTENTIONS AND MOTIVES of an individual often are inferred from observable social judgment cues—that is, the actions that cause subsequent outcomes. In fact, social attribution theorists have assumed that social perception processes typically begin with the observation of action (Heider, 1958; Jones & Davis, 1965). Thus, observing action is a basic task in social perception of others. Yet, few studies have focused on the action itself, a relatively concrete and accessible source of information, as an important basis of children's social perceptions of others.

Heider's (1958) analysis of action theory is a useful conceptual framework for studying the influences of an actor's actions on children's social perceptions. Heider suggested that the level of an actor's intention (goal desire or "wanting") and effort expenditure ("trying") can be directly gathered from observable action. For example, if an actor engages in only one action despite failure to attain a goal, one might conclude that the actor does not really want to attain the goal. Thus, observable actions help to "differentiate genuine intention from the more superficial or less sincere variety" (Heider, pp. 117–118). Equifinality—variability of actions and invariability of the goal—may convey that much effort was expended during goal pursuit (Heider). When one action fails to produce the anticipated outcome, an alternative action is selected and executed until the goal is attained. As stated by Heider, "If we know that a person has tried many different possibilities in attempting to solve a problem, we conclude that he has worked hard at it" (p. 117).

There is some empirical support for Heider's (1958) suggestion that equifinal actions imply relatively high levels of wanting (goal desire) and trying (effort expenditure). For example, Jones (1995) found that children as young as 5 years old perceived actors who engaged in three equifinal actions to have wanted and tried to attain an anticipated outcome more than actors who engaged in only one action or three identical, repetitive actions. Jones and colleagues presented stories to children that mentioned the actor's anticipated prosocial or aggressive outcome (Jones, 1995; Jones & Nelson-Le Gall, 1995; Jones, Parker, & Joyner, 1996; Parker & Jones, 1996). However, people typically are not privy to the intentions and goals of others and must make inferences from observable actions and outcomes. In fact, Heider (p. 114) suggested that people might use equifinality to infer outcome intentionality. The present study assessed children's use of information about actions and subsequent outcomes when inferring outcome intentionality and judging the morality of and liking for story characters whose intentions were unknown.

Researchers who have studied children's inferences of intentionality given information about voluntary and involuntary actions and reflexive and objectlike movements report that young children can distinguish such actions and objectlike movements to make inferences of outcome intentionality (Shultz, 1980; Shultz, Wells, & Sarda, 1980; Smith, 1978). We were primarily interested in exploring whether multiple, varied actions (equifinality) influenced children to infer that the outcome was intended. The observation of multiple, varied actions provides more quantitative (several attempts) and qualitative (variation of attempts) information on which to make inferences of outcome intentionality than

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observations of only one action did (Heider, 1958). Noting the importance of equifinality for inferring intentions, Shaver (1985, pp. 108–109) acknowledged the difficulty of inferring intentions from a single instance of action relative to obtaining information over multiple observable actions. We studied the influences of scenarios that depicted two action conditions—pushing a child on a swing only once and pushing a child on a swing using three equifinal actions—on elementary schoolchildren's inferences of whether actors wanted and had tried to cause the subsequent outcomes. Thus, the actors' anticipated outcome was not mentioned in the stories that were read to the children.

Studies have found that observable outcomes also influence children's inferences of intentionality. Theoretically, it is assumed that people use a variety of social inference rules when judging outcome intentionality (Heider, 1958, p. 115; Nelson-Le Gall, 1985; Shultz & Wells, 1985; Smith, 1978). We were particularly interested in children's use of the valence rule to infer intentionality, which requires the presence of objectively available information such as outcome valence or desirability of the effect. The use of the valence rule to infer intentionality is suggested by inferences that negative outcomes are undesired and thus unintended compared with positive outcomes (Shultz & Wells). Smith found that by 5 years old, children consider the desirability of an effect of action (i.e., garbage that falls on the floor rather than into a garbage can) when judging outcome intentionality. Jones (1995) found indirect evidence that children used the valence rule when judging how much actors wanted and tried to cause an anticipated prosocial or aggressive outcome. Although mention of actual outcome was not stated in the stories read to children, kindergartners and second graders (unlike fifth graders) perceived actors who pursued aggressive goals to have wanted and tried less to attain such goals than actors who pursued prosocial goals. Jones speculated that the younger children's ratings suggest a reluctance to think that a person would really desire an aggressive outcome and engage in actions to cause such an outcome for someone else. This study directly explored this speculation by depicting an actual positive outcome (a child swings high) or a negative outcome (a child falls from the swing to the ground) of the actor's behavior. Children at the kindergarten, second-grade, and fourth-grade levels participated in this study because age-related findings (i.e., Jones, 1995) suggest children in the lower elementary grade levels (kindergarten and second grade) are reluctant to think that a person would try to cause negative effects for others.

We expected that, compared with only one action, multiple and varied actions would provide more information on which to infer that a person wanted and had tried to cause the outcome and thus children would give higher sureness and try ratings to actors who engaged in multiple actions than to those who engaged in only one action. Given related findings (Jones, 1995), we expected children to evidence use of the valence rule and thus infer that actors had not tried to cause the negative outcome compared with actors who caused a positive outcome because children are likely to assume that the negative outcome is an undesired, and thus unintended, effect of action.

Some responsibility is often attributed to people who cause even unintended negative outcomes. Moral judgment studies report that children often assign some blame and make less favorable evaluations of people who cause negative outcomes that are known or perceived to be unintended, unforeseeable, or due to negligence (Imamoglu, 1975; Nelson-Le Gall, 1984; Shultz, Wright, & Schleifer, 1986). We suspected that children's evaluative judgments also would be affected by the different action conditions and different outcomes depicted in the scenarios. For this reason, we decided to assess children's liking for the actors and their moral judgments of the actors. We expected that children would like actors who caused a positive outcome and that such actors would receive favorable moral judgment ratings relative to actors who caused a negative outcome. Children's evaluative judgments become more differentiated with increased age. For example, Jones and Nelson-Le Gall (1995, Study 2) found that children's moral judgments of actors who pursued known aggressive goals varied significantly by action condition (one action versus multiple, varied actions) as grade level increased. We expected that children's liking and moral judgments of actors would be more differentiated by action condition and outcome valence with increasing grade level.

Method

Participants

The participants were 145 children in kindergarten (24 girls, 29 boys), second grade (38 girls, 23 boys), and fourth grade (15 girls, 16 boys). They attended private, parochial schools in a midwestern urban area. The participants were European American (71%), African American (17%), and Asian American or Latino (12%) children. The children were from working-class and middle-class families. Written parental consent was obtained for all children who participated in the study.

Materials

Action-outcome scenarios were adapted (Jones, 1995) to allow for use of an interpersonal situation, children playing on a swing, that was similar to that used in related studies. The stories were adapted to not mention the actors' anticipated outcomes; however, the valence of actual outcomes was varied and depicted at the end of each story. Two levels of action (one action and three equifinal actions) and two levels of outcome valence (positive and negative) were factorially combined to produce a set of four judgment stories that described the behavior of four different child actors. Specifically, the actors pushed a child on a swing

using only one action (a push) or three equifinal actions (a push, a hard push, pulling swing back and letting it go) and caused either a positive outcome (child swings high) or a negative outcome (child falls to the ground) that was mentioned at the end of each story. Two versions of each story were constructed to feature girl and boy actors for each story.

Four different story presentation sets were constructed. Each factorial combination was represented once in each presentation set. The presentation sets counterbalanced the order of information about the actions and the outcome valence within the stories.

An artist created $21 - \times 28$ -cm black-and-white line drawings to depict the content of each story. Three illustrations were made for each one-action judgment story. The first illustration introduced the characters, showing a child sitting on a swing and the actor standing behind the seat of the swing. The second illustration depicted the actor's behavior (pushing the swing), and the third illustration depicted the outcome of the story (child swings high or falls from the swing to the ground). Five illustrations were made for each equifinal-actions story. The first illustration was the same as the first for the one-action story, and the second, third, and fourth illustrations depicted the actor's behavior. The fifth illustration depicted the outcome.

We used the Liking Judgment Rating Scale and Moral Judgment Rating Scale (Jones, Parker, Joyner & Ulku-Steiner, 1999) to assess the children's liking for the actors and their judgments of the actors' morality. Both rating scales consisted of 3 frowning faces and 3 smiling faces, whose diameters increased from 5 cm to 7 cm. A 4-cm diameter face, neither smiling nor frowning, was the midpoint. The faces were combined to form two 7-point rating scales representing judgments that ranged from very bad and dislike a lot (7) to very good and like a lot (1), with the judgment not good or bad and don't like or dislike (4) as the midpoint. Two interchangeable labels $(2 \times 30 \text{ cm})$ differentiated the Liking Judgment Rating Scale (green labels) from the Moral Judgment Rating Scale (blue labels). A 5-point Sureness Judgment Rating Scale, labeled from not at all sure (1) and represented by no column to very very sure (5) represented by a 7-cm tall column, was used to assess one of the children's intention judgments, namely, their sureness that the actor wanted to cause the outcome described in the story. The second intention judgment (try) was assessed by using a verbal rating scale in which the children responded no (1), maybe (2), or yes (3) to the question of whether the actor had tried to cause the outcome described in the story.

Procedure

Children were interviewed individually at school by an adult woman. She asked them to listen carefully to a set of stories about children playing at a playground and look at the pictures of the children because they would be asked to tell what happened in each story and answer some questions about the children. The children were told that there were no right or wrong answers to the questions.

The children were taught how to use the Sureness, Liking, and Moral Judgment Rating Scales prior to hearing the four stories. Children practiced using each rating scale by answering some questions (e.g., "How *sure* are you that it will rain tomorrow?" "How much do you *like* ice cream?" and "How *good or bad* is it to not clean up your room?"). Children pointed to a face to make their moral and liking judgments and to a column to make their sureness judgments.

The first test story was read aloud to the children, and the illustrations were placed in front of the children while the story was read. Boys heard stories about male story characters, and girls heard stories about female story characters. For each story, the illustrations were left in place while the children told the interviewer what happened in the story. A probe was provided if children failed to mention critical aspects of the story such as the three equifinal actions and the outcome of the actor's behavior. If satisfactory recall was not obtained after the probe, then the story was read again and recall was reassessed.

The illustrations were left in place while the children's liking, moral, and intention judgments were assessed. The order of mentioning bad and good and like and dislike was counterbalanced while assessing the children's moral and liking judgments. The interviewer read the labels of each rating scale, and the children pointed to give their answers. The children responded *no*, *maybe*, or *yes* to answer whether the actor had tried to cause the outcome described in the story. The order of obtaining the children's four judgments was counterbalanced across the presentation set of four stories. All ratings were recorded on paper by the interviewer.

Results

The moral, liking, and intention ratings (sureness and try) were analyzed in separate 3 (grade) \times 2 (sex of participant) \times 2 (action condition) \times 2 (outcome valence) repeated measures analyses of variance (ANOVAs) with the last two factors as within-subject variables. The findings are presented for each judgment.

Moral Judgments

There was one significant effect, outcome valence, F(1, 142) = 170.30, p < .0001, for children's moral judgments. As expected, actors who caused a positive outcome received more favorable moral judgment ratings compared with actors who caused a negative outcome (see Table 1 for children's mean ratings as a function of outcome valence for each social judgment).

Liking Judgments

For children's liking judgments of actors, there were significant main effects of grade, F(2, 142) = 4.55, p < .01, and outcome valence, F(1, 142) = 154.39,

Social judgment	Positive vale	outcome ence	Negative outcome valence	
	М	SD	М	SD
Moral	1.85	1.05	4.28	1.72
Liking Intention	1.86	1.01	4.01	1.70
Sureness	4.19	0.88	2.51	1.27
Тгу	2.67	0.57	1.69	0.70

TABLE 1					
Children's Mean Moral, Liking, and Intention Ratings					
as a Function of Outcome Valence					

Note. Higher ratings indicate more negative evaluative judgments (very good/like a lot = 1 to very bad/dislike a lot = 7) and greater inferences of intention (not at all sure = 1 to very very sure = 5 and scores of 1 for no, 2 for maybe, and 3 for yes).

TABLE 2 Children's Mean Liking Ratings at Each Grade Level as a Function of Outcome Valence

Outcome valence	Kindergarten		Second grade		Fourth grade	
	М	SD	М	SD	М	SD
Positive Negative	1.51 3.75 [°] c	0.79 2.04	1.75 4.29 _c	0.73 1.63	2.66 _b 3.90 _c	1.34 1.03

Note. Higher ratings indicate more negative liking judgments of actors (*like a lot* = 1 to *dislike a lot* = 7). Values sharing no common subscript differ significantly.

p < .0001. However, these main effects were qualified by the significant Grade × Outcome Valence interaction, F(2, 142) = 5.03, p < .008. The simple main effect analyses of outcome valence were significant at each grade level such that actors who caused a positive outcome received more favorable liking ratings than actors who caused a negative outcome: kindergarten, F(1, 52) = 63.35, p < .0001, second grade, F(1, 60) = 111.05, p < .0001, and fourth grade, F(1, 30) = 22.79, p < .0001 (see Table 2). However, there was less differentiation of actors by outcome valence among fourth graders than among the younger children.

Sureness Judgments

There were significant main effects of grade, F(2, 139) = 6.52, p < .002, and outcome valence, F(1, 139) = 158.06, p < .0001, for children's sureness ratings

that actors wanted to cause the outcomes described in the stories. The main effect of grade was qualified by the significant Grade × Sex of Participant interaction, F(2, 139) = 3.28, p < .04. Examination of this interaction revealed significant differences across grade level for the boys only, F(2, 67) = 7.71, p < .001. Tukey-Kramer a posteriori pairwise comparisons (p < .05) indicated that second-grade boys (M = 3.80) gave significantly higher sureness ratings to actors than did kindergarten boys and fourth-grade boys (Ms = 3.12). The children heard stories about same-sex actors, which confounds sex of participant with sex of story character, making this finding less interpretable.

The main effect of outcome valence supports our hypothesis that children would use the valence rule when inferring the actors' intention given that actors who caused positive outcomes received higher sureness ratings than did actors who caused negative outcomes (see Table 1). However, this finding was qualified by the significant Action Condition × Outcome Valence interaction, F(1, 139) = 4.72, p < .03. The simple main effect analysis of action condition was significant at positive outcome only, F(1, 144) = 7.26, p < .008. As hypothesized, children gave significantly higher sureness ratings to actors who engaged in equifinal actions than to those who engaged in only one action; however, this finding was significant in the positive outcome condition (see Table 3).

Try Judgments

There were significant main effects of grade, F(2, 142) = 4.02, p < .02, and outcome valence, F(1, 142) = 171.81, p < .0001. Second-grade children (M =

Outcome valence	One a cond	action lition	Equifinal actions condition	
	М	SD	М	SD
Positive	in the standards			
Sureness	4.05	1.15	4.32	0.98
Try	2.63 ^ª	0.71	2.72 [°] a	0.65
Negative				
Sureness	2.52 _c	1.48	2.50	1.51
Try	1.78 _b	0.90	1.59 ^c	0.83

 TABLE 3

 Children's Mean Intention Ratings as a Function of Action

 Condition and Outcome Valence

Note. Higher ratings indicate greater inferences of intention (not at all sure = 1 to very very sure = 5, and scores of 1 for no, 2 for maybe, and 3 for yes). Values sharing no common subscript differ significantly within each inference of intention.

2.29) gave higher try ratings than did kindergarten children (M = 2.05) and fourthgrade children (M = 2.16). However, the Tukey-Kramer a posteriori test did not indicate any significant pairwise comparisons. Similar to the sureness ratings, the main effect of outcome valence supports our hypothesis that children would use the valence rule when inferring the actors' intention. Actors who caused positive outcomes received higher try ratings than did actors who caused negative outcomes, as shown in Table 1, but this finding was qualified by the significant Action Condition × Outcome Valence interaction, F(1, 142) = 5.47, p < .02. The simple main effect analysis of action condition was significant for negative outcome only, F(1, 144) = 5.04, p < .02. Surprisingly, actors who engaged in equifinal actions received lower try ratings than those who engaged in only one action in the negative outcome condition (see Table 3).

Consistent with the valence inference rule, the ratings for both the one action and equifinal actions conditions clearly indicated that children inferred that actors had not tried to cause the negative outcome. However, the actor who engaged in equifinal actions and caused the negative outcome received significantly lower try ratings than did the actor who engaged in one action. That surprising finding prompted further analyses of the data. Nonparametric analyses (chi-square) of the one action and equifinal actions stories at negative outcome were conducted to examine the number of the children who differed from chance level for the three responses. At one action-negative outcome, the number of children who responded no (n = 79) was higher than expected from chance, yet very few children responded maybe (n = 19), and those who responded yes (n = 47) did not differ from chance, $\chi^2(2, N = 145) = 37.29$, p < .0001. At equifinal actions-negative outcome, the number of children who responded no (n = 93) was also higher than expected from chance, and very few children responded maybe (n = 19); yet, unlike the one-action story, the number of children who responded yes (n = 33)was lower than expected from chance, $\chi^2(2, N = 145) = 63.94$, p < .0001. Notably, children gave rather definitive yes or no responses when inferring the actors' intentions, and the number of children who responded maybe was identical (n =19) for the one-action and equifinal-actions stories. More children responded *no* and fewer children responded yes when judging the equifinal actor compared with the one-action actor, which resulted in a significantly lower mean try rating for the equifinal actor.

Discussion

We studied whether children's evaluative judgments and inferences of outcome intentionality are influenced by both the actions that cause an outcome and the valence of the subsequent outcome. We were particularly interested in exploring the influences of different action-outcome scenarios on children's inferences of intentionality and whether children assume that negative outcomes are unintended compared with positive outcomes when not privy to information about an actor's goals, plans, and motives. The findings indicated two important ideas regarding children's use of information about actions and outcomes when making the social judgments we assessed. First, children were clearly reluctant to judge harshly an actor who caused a negative outcome when the actor's intended outcome was unknown. Second, both the actions and outcomes significantly influenced children's intentionality inferences, further indicating that children were reluctant to judge harshly actors who caused negative outcomes. In contrast, only outcome valence influenced children's moral and liking judgments.

As expected, children's evaluative judgments were influenced by the outcome. Actors who caused the positive outcome received clearly favorable moral and liking judgments. Such actors were liked by children and perceived to be good. Actors who caused the negative outcome received less favorable moral and liking judgments, but notably, the ratings were neutral rather than clearly unfavorable as evidenced by mean ratings in the 4-point range for both moral and liking judgments. The findings suggested that children were reluctant to evaluate harshly actors who caused negative outcomes when the actors' intended outcome was unknown, giving such actors "the benefit of the doubt."

Moreover, the neutral moral and liking judgments suggested that children considered personal causality for negative outcomes to be important and thought that actors should not be exonerated, although such effects were perceived to be unintended as indicated by children's intentionality inferences. Such evaluative judgments are consistent with findings in the moral judgment literature. For example, Nelson (1980) found that 3- and 7-year-olds made neutral rather than clearly positive moral judgments of actors who accidentally caused personal injury, which suggests that young children consider personal causality when negative effects are evident.

Jones (1995) speculated that children in the lower elementary levels are reluctant to perceive that people want to cause negative outcomes. An important feature of this study is its direct test of this speculation. At each grade level, children tended not to infer that actors had tried to cause the negative outcome, suggesting that children gave such actors the benefit of the doubt when inferring intentionality, similar to their moral and liking judgments. Thus, the children's inferences are conceptually related to their evaluative judgments of the actors. Furthermore, children's sureness and try ratings of actors suggested an early use of the valence rule when judging outcome intentionality. Consistent with Smith (1978), we found evidence that 5-year-olds can use the valence rule to infer outcome intentionality, whereas Shultz and Wells (1985) found that not until age 11 did children evidence substantial use of the valence rule to infer intention. The two studies used different methods to study children's use of inference rules, which might explain the inconsistent findings. Unlike those studies, we used an interpersonal moral judgment context to assess children's use of the valence inference rule when judging outcome intentionality.

An important feature of this study is its focus on the influences of the dif-

ferent action conditions on children's intentionality inferences. Unlike prior studies on children's inferences of intentionality, the scenarios in this study depicted actors who engaged in only one action or actors who engaged in multiple, varied actions. We hypothesized that the multiple, varied actions would convey more information and social cues, relative to only one action, on which to make sureness and try judgments related to outcome intentionality. Our findings support this hypothesis for children's sureness ratings, but it appears that their inferences were moderated by whether the actor caused a positive or negative outcome. For example, children were more sure that the positive outcome was wanted by the actor who engaged in multiple, varied actions compared with the actor who engaged in only one action. In contrast, children were particularly reluctant to infer that the actor had tried to cause the negative outcome when multiple, varied actions were involved. Actors were not coerced to engage in action, and equifinality, local causality, and effort were features of the action-outcome situation, features thought to be important when making inferences of intentionality (Heider, 1958; Shaver, 1985). However, these researchers suggested it is necessary that the person who makes the inference decides that the actions and implied effort (having tried to do something as suggested by action) were directed toward the observable outcome to infer that the outcome was intended. Our findings suggest that children were very reluctant to perceive that multiple, varied attempts were directed toward the negative outcome, thus inferring that actors had not tried to cause the outcome despite the multiple actions. We believe children first noted the valence of outcomes and, when the outcome was negative and thus assumed to be unintended, the multiple actions augmented the inference of less intention given the negative outcome. That is, children did not believe the actor engaged in multiple, varied attempts to intentionally cause a child to fall from a swing to the ground. Notably, this finding emerged for children at each of the grade levels.

It is important to note that the actions that caused the outcomes were not a factor of the children's evaluative judgments of the actors. Moral and liking judgments are evaluative and perhaps less likely to be linked to the action when the intended outcome is unknown. Jones and Nelson-Le Gall (1995, Study 2) found that with increasing age, children differentiated one action from multiple, varied actions when making their moral judgments of actors. In that study, the actors' aggressive goals were known to the children, unlike in this study. Perhaps the way in which a person pursues a known goal, especially an aggressive goal, becomes more relevant for evaluative judgments of the person given the known goal. In contrast, when one is not privy to the person's goal or anticipated outcome, the actions become more noteworthy when inferring intention because it is assumed that when a person engages in voluntary action, that person wants and is trying to do something (Heider, 1958; Smith, 1978). The questions then become what does the person want to do and what is the person trying to do? Thus, the actions become more relevant when inferring whether the person wanted and tried to cause what actually occurred.

There were few age-related differences in the children's evaluative judgments and intentionality inferences of actors who caused different outcomes. The one exception was the surprising finding of less differentiation of liking ratings by outcome valence among the fourth graders than among the younger children. It appears that this finding relates to the less favorable liking ratings of actors who caused the positive outcome among fourth-grade children compared with the younger children, yet the older children clearly liked actors who caused the positive outcome. The moral judgment literature reports an asymmetry between the valence of outcomes in children's social judgments of others, including more agerelated findings in children's judgments for positive outcome than negative outcome conditions (e.g., Imamoglu, 1975). Several studies reported that children develop the concept of bad prior to the concept of good (Hill & Hill, 1977; Piaget, 1932), in which case one might expect more age-related findings in children's social judgments of others when rating actors who cause positive outcomes.

Other age-related findings indicated that second-grade children tended to infer greater intention than did the other children. Studies report that younger children tend to infer more intention (Nelson-Le Gall, 1985; Smith, 1978), which is consistent with our findings given the inferences of second graders compared with fourth graders. However, the inferences of kindergarten and fourth-grade children were more similar than different. Second graders (7- to 8-year-olds) begin to evidence more attention to and use of intention cues (such as motives and goals) in their social judgments (Nelson-Le Gall, 1985). Perhaps inferences of intention become more likely to emerge for these children given the increasing importance and salience of intention in their social cognitions of action–outcome scenarios.

Finally, it is likely that there are situations in which actors who cause negative outcomes given unknown intentions are judged more harshly than in this study. For example, a reaction by the actor that suggests satisfaction or pleasure with a negative outcome might increase the likelihood that children would assume the actor wanted and had tried to cause what happened. Also, evaluative judgments of such actors might be relatively more negative than we found in the present study and more related to the actions that caused the outcome given the actor's expressed satisfaction with the negative outcome. The need for research on the influences of the actor's reaction to outcomes on social judgments has been noted (e.g., Nelson-Le Gall, 1985), yet this important contextual cue is understudied. The social judgment cues that provide a rich context on which to make inferences deserve systematic study to more fully research the development of children's social judgments.

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