Making Sense of Divergent Interpretations of Conflict and Developing an Interpretive Understanding of Mind

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Our goals in this study were to develop a measure of children’s understanding of divergent interpretations of conflict and relate that measure to children’s more general interpretive understanding of mind (Carpendale & Chandler, 1996). Eighty-nine children between 4 and 9 years of age heard 4 conflict stories in which fault was ambiguous. Children overwhelmingly suggested that antagonists would blame each other and adequately justified those judgments. However, children under 7 years did not believe that it made sense for antagonists to disagree, and children were better able to explain why mutual blame made sense as they grew older. Children’s judgments of the legitimacy of and explanations for divergent conflict interpretations were correlated with similar measures assessing their understanding of the general interpretive quality of mind. Findings are discussed in terms of the role of everyday interaction for the gradual acquisition of interpretive understanding.

Developing a mature social understanding entails more than knowing where you or others, less well informed than yourself, will look for hidden chocolates. Important through the development of false belief tasks has been to uncovering
consistencies in epistemic development, the time is ripe for placing children’s understanding of beliefs into a fuller social-developmental context. Indeed, a constructivist approach posits that children’s understanding of mind is gradually acquired through everyday social communication in familiar interactive settings (e.g., Carpendale & Lewis, in press; Chapman, 1991). If a more sensitive and realistic conception of others’ thinking is acquired through social interaction, then it ought to be realized in more socially embedded tests and associated with children’s social functioning. The goals of this study are to extend research on social cognitive development by examining the gradual development of an interpretive understanding of mind and to relate this to an important aspect of children’s social lives, that is, their appreciation of the dynamics of interpersonal conflict. More specifically, we examine children’s developing appreciation that antagonists will offer different interpretations of who is to blame for their conflicts and relate the development of conflict understanding to children’s more general understanding of interpretation.

ACQUIRING AN INTERPRETIVE UNDERSTANDING OF MIND

False belief understanding is a benchmark accomplishment in the acquisition of a theory of mind. When children appreciate that others can hold beliefs that differ from their own and demonstrate this by attributing to others beliefs that they themselves know to be mistaken, then we can credit them with understanding the independence of others’ minds (e.g., Meltzoff & Gopnik, 1993; Wimmer & Perner, 1983). Knowing that others, in particular others who are misinformed or who possess incomplete information about the situation, can be wrong in their judgments does not constitute the only accomplishment along the road to acquiring an understanding of mind. Recent challenges to this “one-miracle” conception argue for more transitions in an extended progression to a fuller understanding of the thinking of others (Carpendale & Chandler, 1996; Lalonde & Chandler, 2002). One step along the way consists of understanding that two individuals in possession of the same information concerning an event can legitimately arrive at different interpretations of what they both have witnessed. For false belief understanding, children must appreciate that different conclusions can be drawn by individuals who are differently informed; children with an interpretive understanding of mind further comprehend that different conclusions can result from individual interpretations of the same information. Whereas false belief understanding seems to be achieved by the majority of 4-year-olds, appreciating the role and process of interpretation follows several years later, when children reach 7 or 8 years of age.

Along with the concept of an interpretive understanding of mind, Chandler, Lalonde, and Carpendale (Carpendale & Chandler, 1996; Lalonde & Chandler,
2002) have introduced two experimental paradigms for studying the development of such understanding. With this research, they have established the age at which children attain an understanding of interpretation and distinguish interpretation from false belief understanding.

Carpendale and Chandler (1996) used a puppet show to provide children with two equally likely interpretations of a series of ambiguous figures, words, or messages. For example, children were shown ambiguous figures such as the classic duck-rabbit drawing. One puppet, Mary, said she saw a duck, whereas the other, Maxi, claimed it was a rabbit. The researchers then asked about the legitimacy of these differing interpretations: “Why does Maxi say it’s one thing and, at the same time, Mary say it’s another thing?” “Does it make sense for Mary to say it’s one thing and Maxi to say it’s something else?” and “Why does it (or doesn’t it) make sense?” Finally, a third puppet was introduced and children were asked to predict what this new character might think: “Do you think Ann will think it’s a duck or a rabbit, or wouldn’t you know what she would say?” Children who allowed that the different interpretations made sense, who explained them as arising from the ambiguous nature of the picture, and who claimed that it was not possible to make a firm prediction about how a third party would interpret the picture were credited with having an interpretive understanding of mind. Other sources of ambiguity depicted were ambiguous interpretations of homophones (e.g., pair versus pear) and ambiguous referential communication (e.g., to the red block in a set of a large red, a small red, and a large blue block), all presented as puppet plays. The consistent finding across two versions of this general procedure was that few of the 5- to 6-year-olds, and most of the 7- to 8-year-olds displayed an understanding of interpretation. At the same time, all of the youngest children did pass a standard false belief test. Thus children who grasp the idea that misinformed individuals can hold false beliefs do not necessarily understand that two individuals can arrive at different conclusions based on their own interpretations of the same information.

Lalonde and Chandler (2002) used a quite different paradigm, based on cartoonist Roger Price’s (1953) Droodles, for studying children’s understanding of interpretation. They began by showing children a black-and-white drawing depicting a meaningful scene, in their exemplar case, a ship arriving too late to save a drowning witch. They then covered the drawing with a frame that left only part of the picture exposed—the tip of the ship’s bow and the top of the witch’s hat. The exposed part of the picture appears as two triangles, one on the edge of the picture (formerly the ship’s bow) and one rising from the bottom of the picture (the top of the witch’s hat); only someone who had seen the original picture would interpret this fragment as anything related to a ship and a witch. The children’s task was to say what Raggedy Ann, who was only shown the reduced image, would think the picture was. Any meaningful response that did not include ships and witches was considered to indicate false belief understanding (see also Chandler & Helm, 1984, and Taylor, 1988, for earlier uses of these stimuli). Credit for understanding interpretation required one addi-
tional step: Raggedy Andy now entered the scene, completely unaware of what had happened thus far, and the child was asked what Andy might say about the picture. If Raggedy Andy provided a plausible interpretation that differed both from that provided by Raggedy Ann and from interpretations of the full picture, then the child was credited with understanding that different individuals, presented with the same ambiguous information, would provide different interpretations. Indeed, the restricted fragment of the drawing was so ambiguous that similar interpretations by any two individuals would be highly unlikely.

In this study, as in Carpendale and Chandler (1996), 5- and 6-year-old children displayed excellent understanding of false belief (providing a reasonable interpretation for Raggedy Ann) but, despite some improvement between 5 and 6 years, generally did not understand that Raggedy Andy would provide a different, and equally legitimate, interpretation of the same ambiguous picture fragment. It was not a lack of imagination that prevented different interpretations by Ann and Andy: When other 5- and 6-year-olds were asked merely to guess and guess again what the pictures might depict, they easily provided multiple suggestions. In addition, a small group of 7-year-olds were asked why Ann and Andy would offer different interpretations of the same thing. These children generally understood that it would be highly unlikely for two individuals to see the same thing and that both would provide their own individual interpretations. To quote one expressive participant: “They’re not a two-headed monster with the same brain!” (Lalonde & Chandler, 2002, p. 189).

Thus, using two quite different procedures, these researchers found that false belief understanding, generally present in all of the children tested, precedes comprehension of interpretation by several years. A fully interpretive understanding of mind consistently emerged in children of about 7 years. Several differences in the procedures of the two studies are notable: First, Carpendale and Chandler (1996) suggested that the two puppets would interpret the ambiguous situations in different ways and asked the children to explain responses already provided by the researchers; Lalonde and Chandler (2002) asked children themselves to provide interpretations and, with the exception of a small group of 7-year-olds, did not ask them to explain their responses. Second, to be credited with an interpretive understanding of mind, Carpendale and Chandler required explicit reference to the ambiguity of the situation, whereas Lalonde and Chandler accepted evidence based on children’s suggestions of two divergent interpretations by two witnesses to the same events. Yet, despite these differences, the two paradigms led to much the same developmental findings. Given this consistency, what is to be gained by investigations of children’s interpretations of interpersonal conflict?

INTERPRETATIONS OF CHILDREN’S CONFLICTS

This research adapts aspects of both procedures and applies these to the study of children’s understanding of differing interpretations of interpersonal conflict.
Children first heard a story concerning conflict between two siblings in which there was some level of ambiguity and asked who each depicted protagonist would blame for the fight. Like Lalonde and Chandler (2002), we first asked children to provide responses and examined whether children would provide different interpretations of responsibility for the two protagonists. Second, like Carpendale and Chandler (1996), we brought the different interpretations to the attention of the children and asked them to explain the discrepancies. By examining children’s understanding of interpretations of conflict situations we are expanding the study of interpretation into a domain in which young children have already had considerable experience in interaction with familiar family members and others (Dunn & Munn, 1986; Howe, Rinaldi, Jennings, & Petrakos, 2002; Ross & Conant, 1992; Ross, Filyer, Lollis, Perlman, & Martin, 1994).

Additionally, we compared children’s performance on the conflict items to their performance on a subset of the tasks used by Carpendale and Chandler (1996). Consistent with the idea that social understanding develops through everyday social interaction, it is possible that children’s interpretive abilities might be displayed at a younger age when the context is everyday conflicts than when the novel interpretive tasks of Chandler, Lalonde, and Carpendale are used (Carpendale & Chandler, 1966; Lalonde and Chandler, 2002). Additionally, different aspects of interpretive knowledge might emerge gradually because different tasks require different levels of understanding (Carpendale & Lewis, in press). Indeed, in Pillow’s (1991) investigation of the role of bias in interpretation, he found that 5- to 6-year-olds were able to use explicit information on protagonists’ biases to decide how to interpret otherwise ambiguous actions. For example, a child was observed holding a toy near a box containing items that her class was donating to poor children. Was she putting a toy into the box or removing a toy from it? Information on whether observers of this scene either liked or disliked this girl was used by the kindergartners in deciding whether the observers would deem her actions either helpful or malevolent. The children also understood that biases would be ignored when actors’ intentions were clearly portrayed to observers. However, it wasn’t until children were 2 years older that they were able to adequately explain how either biases or information attributed to the observers of this scene accounted for their likely interpretations of the actions they saw. The context of sibling conflict might also be one in which some or all aspects of interpretive understanding are present before children are 7 or 8 years of age.

How well do young children understand interpersonal conflict? Starting at 4 or 5 years, children can provide coherent narratives of past sibling conflicts that represent the perspectives of both antagonists (Ross, Siddiqui, Ram, & Ward, 2004). When asked about conflict goals from both perspectives, 4- to 8-year-old children are adept at providing information on what both they and their adversaries wanted. Moreover, the goals and actions of both self and other can be organized into goal–action hierarchies in which explicit goals, at the top of the hierarchy, motivate the actions that each participant takes in the conflict. When two children are
asked about the same sibling conflict, they tend to agree on about half of each other’s motivating goals for their disputes. At the same time, 5-year-olds who hear a vignette about parents fighting do not describe the problem as a conflict based on the divergent goals of the individuals (Jenkins & Buccioni, 2000); rather, they describe one parent as being right and the other as wrong. At 7 years a minority of children recognize conflicting goals as the basis of conflict and by 9 years of age all children do so. With respect to their own conflicts, children also seem to feel that one person is right (themselves) and the other wrong (their adversary). They mention more harmful acts for others than for self and provide more justifications for their own than for their adversaries’ conflict actions (Ross, Smith, Spielmacher, & Recchia, in press; Wilson, Smith, Ross, & Ross, in press). When explicitly asked who was to blame for past disputes, children overwhelmingly name their conflict antagonists (McGuire, Manke, Eftekhari, & Dunn, 2000; Shantz, 1993; Smith, 2001). Smith also found that siblings held one another responsible for initiating conflict and specified initiating actions of the other that were consistent with these attributions. However, these same children tended to remember and to include in their narratives their own actions that had been designated as conflict initiations by their siblings. They simply do not believe that their own actions started the difficulties. This one-sided ascription of responsibility is also revealed in children’s actual conflicts: 2-, 4-, and 6-year-old children selectively tell their parents about the wrongdoings of their siblings rather than their own (den Bak & Ross, 1996; Ross & DenBak-Lammers, 1998). Thus children show some knowledge of others’ perspectives on their conflicts but consistently depict their own perspectives as the more legitimate and their adversaries as more blameworthy than themselves.

In light of these one-sided views of responsibility for their own disputes, the question for this study is when children recognize that different individuals could offer different interpretations of conflict and when they understand that both interpretations could be justified. Because conflict antagonists often have different understandings of exactly what transpired, an appreciation that witnesses to and, indeed, participants in the same events may arrive at different interpretations seems a particularly useful insight. Because conflict is also a frequent and emotionally intense interpersonal interaction, conflict is one everyday context in which an interpretive understanding of mind really matters.

METHOD

Participants

Participants were recruited from a public school in a midsized community in southwestern Ontario. Parental permission to participate was sought from all students enrolled in junior kindergarten through grade four. Eighty-nine students
from 15 classes ultimately participated in the study. Participants were divided into three groups based on their age at the time of the interview. The number of participants, as well as the mean ages (in years) of participants, in each group were as follows: 4- to 6-year-olds (N = 32, $M = 5.76, SD = .73$), 7- and 8-year-olds (N = 36, $M = 7.96, SD = .59$), and 9- and 10-year-olds (N = 21, $M = 9.79, SD = .43$). Overall, 51 of the participants were girls and 38 were boys. The youngest and middle age groups each had 8 more girls than boys, whereas the eldest group had an approximately equal number of participants of each gender (12 boys vs. 9 girls).

Procedure

All participating children were interviewed individually in an empty classroom during their regular school day. The interviews were audiotaped and later transcribed. The interview had two main components: a conflict interpretive understanding task and a general interpretive understanding of mind task. The order of the two tasks was counterbalanced across interviews. The average length of each session was approximately 20 min.

**Conflict interpretive task.** This task adapted the general procedures developed by Chandler, Lalonde, and Carpendale (Carpendale & Chandler, 1996; Lalonde & Chandler, 2002) in their original paradigms but applied children’s understanding of interpretation directly to a conflict context. We asked the children to supply and justify the judgments of two protagonists in conflict stories. The potential for protagonists’ differing interpretations of events could lead to conflicting ideas regarding who was to blame for the conflict and, thus, culpability itself acted as the ambiguous stimulus in each story. This aspect of our procedure resembles that of Lalonde and Chandler; in that study the children provided responses for Raggedy Ann and Raggedy Andy and the issue was whether these two puppets would offer differing interpretations of an ambiguous drawing fragment.

We then asked for evaluations of whether two perspectives made sense and for explanations for these judgments. This aspect of our procedure resembled that utilized by Carpendale and Chandler (1996), in which children were asked to evaluate the plausibility of two interpretations of ambiguous stimuli provided for them by the experimenter.

Children were presented with a series of four stories, each depicting two young protagonists in conflict (see Appendix). For our purposes, we defined conflict as a situation in which two individuals act on their mutually opposed goals. Each story had one male and one female protagonist, portrayed as siblings. Five pictures accompanied the narration of each story and were left in clear view of the children until all questions had been answered. The pictures and the contrasting genders in each story helped children to initially comprehend the important events in the story and to retain and retrieve this information for later questioning.
In these stories, both protagonists had valid, justifiable reasons to claim that the other character was responsible for causing the fight. For example, in one story (Blocks), two children named John and Maggie are told by their mother to tidy up their toys and that she would then take them to the park. John has built a block tower of which he is particularly proud and he does not put away the blocks from that tower. However, Maggie does put the tower blocks away in an effort to clean up the room. John’s subsequent anger at Maggie’s actions is justified because she destroyed his tower, whereas Maggie’s perspective is justified by their mother’s explicit instructions to tidy up their toys.

Following the presentation of each story, children were asked a series of questions to elicit their understanding of the protagonists’ interpretations of events and resulting ideas about who was to blame for the conflict. Participants were first asked to identify each perspective (the order of the alternatives within each story was counterbalanced). Using the Block story as an example, they were asked “Whose fault would Maggie say the fight is? Why?” and then “Whose fault would John say the fight is? Why?” This open-ended format was used to avoid initially scaffolding participants’ responses by orienting them to each perspective. However, if a participant was unable to identify one or both perspectives or claimed that a character would say that the fight was his or her own fault, the interviewer then explicitly asked the participant about that particular perspective. Specifically, the interviewer claimed, for example, that “Actually, Maggie told me that the fight is John’s fault. Why would she say that?” Following this question, if a child was still not able to justify one or both perspectives, he or she was not questioned further about that particular story, because the subsequent explanation questions relied on a grasp of the two-sided nature of the conflict situations.

To gauge participants’ ability to explain the discrepancy between the protagonists’ perspectives, participants were asked to affirm their earlier responses pertaining to attributions of fault and to explain how these different interpretations were possible. Specifically, the interviewer reminded participants that “Now, you said that Maggie and John have different ideas about whose fault it is, right?” and then requested an explanation for this claim: “Why do they disagree like that?” In addition, the interviewer asked each participant to evaluate whether it “makes sense that Maggie and John can have different ideas about whose fault it is” as well to explain why or why not.

After each story, the participants were rewarded with a sticker and were able to track their progress through this portion of the interview by affixing their stickers to spaces on a card.

General interpretive understanding of mind task. The procedure used for this task was based closely on the paradigm used by Carpendale and Chandler (1996, Study 2). Specifically, participants were told that they would be playing
three games with two puppets, Soozo and Tarky. Each game was designed to test knowledge of interpretation in the context of a particular type of ambiguous stimulus. In the ambiguous figures task, participants were shown the classic duck–rabbit drawing (Jastrow, 1900) and were told “Soozo and Tarky are trying to figure out what this is a picture of.” In the ambiguous referential communication task, each participant was presented with a series of three cards: a large red card, a small red card, and a large blue card. They were told: “Soozo and Tarky are trying to figure out where a penny is hidden underneath one of these three cards. They know that the penny is underneath a card with a red block.” Finally, in the lexical ambiguity task, participants were told that the puppets were playing a game in which they had to “wait for a pear/pair,” and were shown pictures depicting a pair of shoes and a pear. The order of these three tasks was counterbalanced across interviews.

In all three tasks, each of the two puppets was made to endorse one of the two reasonable interpretations of the ambiguous stimulus. For example, in the ambiguous figures task, one of the puppets claimed that the picture depicted a duck, whereas the other alleged that it was a rabbit. The order in which the interpretations were presented and the specific perspective taken by each puppet were counterbalanced across interviews.

After the initial presentation of each stimulus, participants’ understanding of interpretation was assessed. Each child was asked to explain the discrepancy between the perspectives of the two puppets: “Why does Soozo say it’s one thing and at the same time Tarky says it’s something else?” “Does it make sense for Tarky to say one thing and Soozo to say something else?” “Why?” or “Why not?” The presentation order of the alternatives was counterbalanced. To limit the length of each interview, the portions of Carpendale and Chandler’s (1996) original paradigm assessing participants’ predictions of a third-party perspective were excluded from this study.

Coding

**Conflict interpretive task.** Children were first asked who each protagonist would say is to blame. Responses were coded as referring to self or other. Second, children were asked to justify this attribution of blame. Justifications were first coded for their overall adequacy in explaining a given perspective; a response was coded as adequate if it was situation-based and inadequate if it was nonsensical or unrelated to the immediate conflict (e.g., “Because they’re brother and sister”). Adequate justifications were further categorized to reflect their content. Each statement was coded as being related to the thoughts or motivation of the protagonist, the actions of the antagonist, or the violation of moral or entitlement principles. A single response was coded using multiple categories when necessary. Two independent raters coded responses for 26% of the participants ($\kappa = .93$).
Participants were also asked whether it made sense that the protagonists had different ideas. We calculated the proportion of children’s responses in which they claimed that it did make sense by dividing the frequency of affirmative responses by the total number of stories for which this question was asked. Finally, participants were asked to explain the discrepancy between the interpretations of the two characters (“Why do they disagree?” “Why does it make sense/not make sense that they have different ideas?”). Responses to these two questions were also coded for their adequacy, albeit using different criteria than for the justifications of protagonists’ perspectives. Explanations in terms of the differing motivations or beliefs of the protagonists that accounted for each protagonist blaming the other, those that cited the negative actions of both protagonists, or explanations that described differing interpretations of ambiguous facts or events (e.g., “Because she thought he needed the hairy bat, and he meant the baseball bat.”) were coded as adequate. Children’s “don’t know” responses and explanations that were nonsensical, that only described one perspective without addressing the other or that quoted a moral principle that ought to have applied (e.g., “’Cause they have to take turns”), were coded as inadequate. Again, two independent raters coded responses for 26% of the participants (κ = .91). For a given story, each participant was credited with their highest adequacy score across the two relevant questions.

**General interpretive understanding of mind task.** As with the conflict stories, we calculated the proportion of items for which each child claimed that it made sense for the puppets to interpret the situation differently. In responding to the explanation questions (“Why does Soozo say that it is one thing and at the same time Tarky say that it is something else?” “Why does it make sense/not make sense that the puppets have different ideas?”), responses were scored as adequate if they referred clearly to the ambiguous feature of the stimulus itself (e.g., “They are both red blocks”) and inadequate if they endorsed one interpretation at the expense of the other (e.g., “This guy was right because it is a duck”), explained how the puppets arrived at their own particular interpretations without addressing the issue of interpretation in general (e.g., “He wants something to eat”), or could not explain why the puppets disagreed. Responses were also inadequate if they gave a partial explanation of the puppets’ differing perspectives without referring to the ambiguity of the stimulus itself (e.g., “They’re both looking at the picture differently”) or if they referred to the incorrect feature of the stimulus, omitting the critical ambiguous detail (e.g., “There’s a big block and a small block”). Again, participants were credited for their best response across the two questions. Two independent raters coded responses for 26% of the participants (κ= .91).
RESULTS

Interpretive Understanding of Conflict

Ascribing blame. In the conflict stories, children were asked who each protagonist would blame for the fight. We added the frequencies of blaming other by each protagonist in each story (8 in all) and determined the proportion of responses in which protagonists were depicted as blaming other (i.e., blaming other divided by the sum of blaming other plus blaming self). The same was done for proportion of responses blaming self. Our findings show that children in all grade levels believed that each protagonist would blame the other for the fighting (Table 1)

Children claimed that protagonists would accept personal responsibility for only 2% of the fights and blame others for the remaining 98% (Table 1).

When children described protagonists as blaming the other, we asked them why they did so. To analyze children’s justifications we divided the frequency of their

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1 Although there were very few instances of children judging that protagonists would ascribe blame to themselves, we were concerned that our procedure of telling children that protagonists would blame the other (“Actually, Maggie told me that the fight is John’s fault”) might have led children to make such judgments more often. If this were the case, then children would be more likely to suggest that protagonists would ascribe responsibility to themselves in the first stories they heard than in the last stories they heard. Because story order was reversed between children, we could compare self-blame in the first two stories with that in the last two stories. There were 18 instances of children suggesting that protagonists would blame themselves in the first two stories and 13 such instances in the last two stories, which was not significant by a binomial test. The low frequency of such instances as well as the fact that the frequency did not change over time makes it unlikely that children were learning that protagonists would blame others as a result of our study procedures.
use of each justification by the total number of times that they responded that the protagonist would blame the other. We first analyzed the proportion of justifications that adequately explained protagonists’ actions and then examined the different adequate justifications children offered. With a one-way analysis of variance (ANOVA), we found an effect of age, $F(2, 86) = 5.39, p = .006$, for the proportion of adequate justifications of protagonists’ ascriptions of blame to others (Table 1). The youngest group, although significantly different from each of the other two age groups, $ps < .03$, did, nonetheless, adequately justify the vast majority of their judgments.

Qualitative analysis of adequate justifications. There were four predominant ways in which children provided adequate justifications for their judgments of protagonists’ blame. Most frequently children cited the wrongful actions that victimized each protagonist as his or her justification for blaming the other (e.g., “Because he called her a jerk,” “Because she knocked down his big tower,” or “Because she, he’s been playing with the pet for a long time”). Moral considerations, especially the violation of principles of entitlement, were next in frequency. Such justifications include “Because he’s not cleaning up and he’s supposed to,” “Because he had two turns,” or “Because it’s not her dog.” In addition, the motivations and, finally, the thoughts of the protagonists justified ascribing blame to the other. Examples of these categories include “Because he wanted this bat and not another bat,” “Because she wants to go to the park,” “Because she thinks it was the whole family’s puppy and not just his,” or “Because she didn’t know which bat to take.”

Data for the frequencies of adequate justifications for each perspective were summed over the four stories and divided by the number of times children were asked to justify a protagonist’s perspective. Because children could justify perspectives with more than one reason, the number of adequate justifications per story could be greater than 1.0. A one-way ANOVA indicated an effect of age, $F(2, 86) = 12.08, p < .001$: children offered more justifications as they got older ($Ms = 1.12, 1.51, \text{ and } 1.57, \text{ and } SDs = .42, .35, \text{ and } .38, \text{ respectively}$); the youngest children differed from each of the other groups, $ps < .001$. For all age groups, others’ actions were mentioned most often to justify ascribing blame to the other ($M = .72, SD = .19$), moral considerations were mentioned next most often ($M = .34, SD = .20$), and the motivation of the protagonists ($M = .19, SD = .22$) and thoughts of the protagonists ($M = .14, SD = .17$) followed in order of decreasing frequency.

In summary, children considered that protagonists would blame others for their fights and adequately justified these judgments in terms of the actions, morality, motivation, and thoughts of the protagonists. Although the youngest children were somewhat less adept at justifying these judgments and less fluent in their justifications, it is nonetheless fair to say that their responding was very much in line with the trend for the older children.
**Did different ascriptions of blame make sense?** Children were then asked why the protagonists had different ideas about whose fault the fight was and if it made sense for them to do so. If a child originally said that protagonists would blame themselves, we suggested that, in fact, they would blame the other and asked the children to justify this alternative ascription of blame. If they could then suggest why protagonists would blame others, they were asked the question about whether it made sense for them to do so, and their responses to this question were included in this analysis (21 responses). However, in 28 cases the children could not offer a justification for protagonists blaming others and in those instances the questions concerning whether different perspectives made sense could not be asked. As a result, one child in the youngest age group was eliminated because he was not able to justify both perspectives in any of the four stories. All other children could do so.

Proportions were created that indicated the number of times children responded that it did make sense for protagonists to blame each other divided by the number of times the child responded to this question. The effect of age, in a one-way ANOVA, was significant, $F(2, 85) = 8.49, p < .001$ (Table 1). The youngest children were significantly less likely to claim that differing ascriptions of blame did make sense than were children in the other two age groups, $p_s \leq .002$, but the two older groups were not different from each other.

In a separate analysis we examined the children’s explanations of their judgments concerning (a) why the protagonists disagreed and (b) why it made sense or didn’t make sense for protagonists to blame each other. Essentially we examined whether the children could adequately explain their judgments in response to either of these questions. We calculated the proportion of responses in which children provided adequate explanations and, with a one-way ANOVA, found a significant effect of age, $F(2, 85) = 14.40, p < .001$. Overall, children adequately explained a majority of their judgments ($M = .61$ vs. $.39, SD = .36$) and were better able to do so with age (Table 1). Whereas children in the youngest group provided adequate explanations for 41% of their judgments, the eldest children did so 87% of the time. All age groups differed from one another, $p_s < .01$.

**Qualitative analysis of inadequate explanations.** To further consider why children failed to explain why the two protagonists would differ in their ascriptions of blame for the conflict stories, we conducted a qualitative analysis of the explanations that were considered to be inadequate. In 52 cases inadequate explanations were offered when children said that it did not make sense for protagonists to disagree and 57 times children said that it did make sense but could not adequately explain their judgments. However, the reasons children gave to explain their positions were similar in both cases. Most often (45 times) children tended to side with one protagonist or the other when they failed to adequately explain why protagonists disagreed or why it did or did not make sense for them to do so. In these cases
children either represented only a single perspective or judged that only one of the protagonists had a valid justification for the conflict. For example, children explained: “Because she cleaned up the blocks and he didn’t,” “Because he was in the front last time,” or “Because one is wrong and one is right, because um, it’s, it’s, she’s right, ’cause it’s both of their dogs.” Thus, although they were generally able to justify each position individually, they did not explain why both positions were simultaneously legitimate.

In other cases children reflected on the morality of the situation, considering that protagonists should cooperate, were being bad or mean to each other or disagreed because they were fighting. Such explanations occurred 27 times. It made sense for the children to have different views “’Cause they are both jealous. None of them should get to sit in the back, front,” “Because sister and brother always almost always get in fights, like my sister I almost always get in a fight with her sometimes,” or “’Cause they have to take turns.” These explanations did not touch on the basis for either child’s perspective but considered that their different perspectives were due to the fact that they were fighting. Thirty-seven times children said that they didn’t know why protagonists disagreed or offered explanations that were irrelevant to the situation (e.g., “Because they don’t have the same shoes”).

General Interpretive Understanding of Mind

Did multiple interpretations of ambiguous stimuli make sense? When puppets were depicted as interpreting the same stimulus or situation differently, the children were asked whether it made sense for them to do so. Their responses were averaged over the three types of ambiguous stimuli and analyzed in a one-way ANOVA with age as a factor. There was a significant increase with age in children’s judgments that different interpretations made sense, $F(2, 86) = 9.67, p < .001$. The youngest children differed from the older two age groups, $p_s \leq .001$ in both cases, but the older two groups did not differ significantly from each other (Table 1).

Children were also asked why the puppets had different interpretations and why this did or did not make sense. Their explanations were scored as adequate if they referred to the fact that the stimuli were ambiguous and thus open to different interpretations and as inadequate if they failed to do so. The proportion of adequate explanations was analyzed with a one-way ANOVA and significant age differences were found, $F(2, 86) = 13.03, p < .001$. Although the children did not, overall, provide adequate explanations of the different interpretations ($M=.32$ vs. $.68$, $SD = .34$), as they grew older they were significantly more likely to be able to explain why two individuals would differ in their interpretations; all age groups differed significantly from one another, all $p_s \leq .01$ (Table 1).
Comparing Conflict and General Interpretive Understanding of Mind Stories

Children’s judgments of whether it made sense for protagonists to interpret conflicts or ambiguous situations differently showed highly similar developmental patterns. The two measures were also correlated with each other, $r(88) = .51, p < .001$ but $r(85) = .39, p < .001$ with age controlled. The adequacy of the children’s explanations for these two tasks were also correlated, $r(88) = .34, p = .001$ but $r(85) = .12, p = .27$ with age controlled. However, throughout the age period children were better able to explain why it made sense for protagonists to offer different interpretations for the conflict stories than for the ambiguous situations, $F(1, 85) = 41.66, p < .001$, with no Age $\times$ Task interaction. Children in all age groups were better able to explain why it made sense for conflict antagonists to have divergent interpretations, $ps \leq .002$.

Analyses of Control Factors

Analyses were also conducted to examine the influence of gender, the order of administering the conflict versus general interpretive assessments, and the order of questioning concerning protagonists depicted in each task, which were all counterbalanced across participants. Each of these factors was considered in relation to the dependent variables reported previously, but interactions among control factors were not examined. There was one significant effect of the order of administering the tasks. When children were given the interpretive understanding of mind task first, they were more likely to provide adequate explanations for why the conflict protagonists disagreed ($M = .69, SD = .36$) than when the conflict task was given first ($M = .53, SD = .36$), $F(1, 86) = 4.36, p = .04$.

This single, small difference could be the result of chance factors, or children could have been more relaxed with interviewers, and thus more fluent, when the conflict task came second. However, the opposite was not true—children were not more likely to adequately explain the protagonists’ disagreements on the interpretive understanding of mind task when this task followed the conflict task. No gender effects were found for either interpretive task.

DISCUSSION

As predicted, different interpretations of the same events or stimuli made sense to 7- and 8-year-old children far more reliably than to the younger children. This was true for both the conflict stories and the general interpretive understanding of mind tasks. Additionally, the children’s judgments on these two tasks were highly corre-
lated. This aspect of our findings replicates those of Carpendale and Chandler (1996) and extends the study of interpretation to the domain of children’s judgments of conflict situations. Children’s abilities to explain their initial judgments, however, developed beyond 8 years, both with respect to conflict stories and ambiguous situations. Thus, the intuition that differences in interpretation are legitimate precedes children’s abilities to explain clearly why this situation makes sense. Furthermore, the children’s abilities to explain the two types of ambiguities were not correlated (beyond that accounted for by age differences) and children were clearly better able to explain why different stances were taken with respect to ascribing blame for conflict situations than for interpreting ambiguous stimuli in particular ways. Why would this be the case?

Our initial prediction of precocious development in the conflict task was related to young children’s considerable social and communicative experience in conflict situations. Conflict is frequent and children can readily explain what others want and why (Ross et al., 2004). They also readily blame others for starting disputes and, in that context, are subject to others’ explanations of how they themselves were at fault and to the explanations of their parents concerning their own interpretations of the children’s disputes with one another (McGuire et al., 2000; Ross & den Bak, 1998; Ross et al., 1994; Smith, 2001). Thus, they have experience with multiple interpretations of conflict that they lack with respect to the interpretation of ambiguous messages or figures.

However, one difficulty with directly comparing the children’s performance on the two types of interpretive tasks is that the scoring criteria are different. Children are scored as giving an adequate explanation of the conflict interpretive task by explaining the conflict in terms of the characters’ differing motivations or beliefs or by referring to the ambiguous nature of the event. For the general interpretive task, however, only the latter explanations for differences in interpretation by the two protagonists (i.e., recognizing that the ambiguity of the stimulus makes multiple interpretations possible) were considered to be evidence of an interpretive understanding.

This scoring difference is not simply an artifact of the coding we apply but rather it is inherent in the situations the children are asked to explain. No information is given in the general ambiguous situations and children could not reasonably be asked to explain why one puppet would make one particular choice whereas the other puppet would choose differently. To do so, children would require some understanding of internal and undisclosed psychological factors (liking for ducks versus rabbits; availability of thoughts concerning food versus footwear) that would constitute unfounded guesses in this context. Unless it were couched in explicitly hypothetical terms, the question of what factors inspired each particular interpretation cannot be meaningfully answered based on the information given during the general stimulus ambiguity task. With respect to ambiguous conflicts, however, children’s knowledge of conflict processes makes a psychological per-
spective on this issue sensible. With conflict, children can integrate their understanding of biases in ascribing blame with the details of the particular dispute depicted. A full understanding of interpretation may involve both an epistemological understanding that ambiguous stimuli can legitimately be interpreted in multiple ways and some psychological insight regarding why different individuals might arrive at their own particular interpretations. However, this second aspect of interpretation is not possible on the general interpretive tasks. Understanding the psychological factors that prompt divergent interpretations may be one factor that makes the conflict interpretive task easier for children.

In this study the conflict stories depicted events involving siblings and divergent perspectives could be more apparent in sibling conflicts. Additionally, we took care to construct stories in which two legitimate perspectives were represented. Thus we attempted to maximize the likelihood that children could anticipate two distinct, biased conflict interpretations. It would be important in future work to examine situations in which only one of the perspectives was morally justifiable, in which different relationships were depicted (would children think that it made less sense for protagonists to have differing legitimate perspectives when mothers and children disagreed on contentious issues?) or in which the children themselves were represented as one of the parties to a dispute. In addition, we did not measure children’s linguistic abilities; however, we do not believe that the developmental progression we observed was a result of children’s growing capacity to understand or respond to the questions rather than their developing understanding of interpretation per se. This is because Carpendale and Chandler (1996, Study 2) controlled for the influence of language by posing questions that were highly similar but focused either on false belief understanding (e.g., “Why does Maxi think his toy is in the blue container and Mary think it’s in the yellow container?”) or interpretive understanding (e.g., “Why does Maxi think the sticker is under the card with the big red block and Mary think it’s under the card with the big blue block?”). They found that 5-year-old children were fully capable of explaining the situation involving false beliefs well before they could provide conceptually appropriate answers to an almost identical question focused on interpretation, even though adequate explanations for the differences in interpretation were actually shorter and simpler than false belief explanations. A more direct test of the role of linguistic abilities in children’s interpretations of conflict perspectives would, of course, be possible.

We designed our conflict stories to correspond closely with the general procedures used by Carpendale and Chandler (1996) in that we emphasized children’s judgments and explanations of whether two individuals could arrive at different interpretations of events. However, one difference between our procedure and that used by Carpendale and Chandler is that the conflict stories required the children to first supply and then justify the individual interpretations of the two protagonists in each story. This aspect of our procedure more closely resembled that of Lalonde
and Chandler (2002), who asked children how Raggedy Ann and Raggedy Andy would each interpret an ambiguous picture fragment. In that study, evidence for an interpretive understanding of mind depended on children supplying two different interpretations for each doll that both differed from the full drawing. Children did so at 7 or 8 years of age, in general correspondence with the age for passing the Carpendale and Chandler task. By roughly the same criterion, the preponderance of children in our study could be credited with understanding interpretation within the conflict context because they both supplied and justified two interpretations of conflict culpability for each story protagonist. Although there were some developmental differences over the age span, even the youngest children, at 4 to 6 years of age, considered that protagonists would blame each other and could provide very reasonable justifications for mutual blame. What differences in these tasks might account for the divergent findings?

In responding to the conflict stories in this study the children, as seasoned veterans of interpersonal conflicts, would have participated in many situations of mutual blame. As a consequence of this experience they may have been able to suggest divergent interpretations without the understanding required for the Lalonde and Chandler (2002) procedure—that the a priori probability of providing the same interpretations was extremely low. Many of the youngest children in our study who did offer two interpretations but then failed to allow or adequately explain that it made sense for there to be two interpretations, seemed to be seeking one correct ascription of blame. Their most likely inadequate explanations provided only a single perspective on the culpability of the protagonists. These children could tell us that protagonists would make incompatible claims, and they further demonstrated their comprehension of the particulars of the story by justifying these claims individually. What they did not appear to understand was that both were simultaneously legitimate and logical interpretations of the same event that were not undermined by correct ascriptions of blame for the conflict. That is, they showed some awareness that multiple interpretations happen but little understanding regarding why they happen. This same inability to bring two perspectives together is also reflected in Jenkins and Buccioni’s (2000) finding that, at 7 years, children are just beginning to understand that parental conflict can entail legitimate incompatible goals rather than one correct and one wrong position.

The result that divergent ascriptions of blame precede children’s adequate explanations of interpretation is not too different from Pillow’s (1991) finding of a 2-year gap between children taking individual biases into account in attributing interpretations and being able to explain that they were doing so. If a full understanding of interpretation requires that you be able to reflect on and explain the basis for it, then young children have not achieved this milestone. However, social situations such as those studied here and by Pillow provide evidence that relatively young children do know something about the interpretation process. These may be particular and limited contexts in which such precocious and only partly understood knowledge manifests itself. Perhaps these specific cases, in which children
display some inclination to understanding interpretation, provide experience that will help them to develop along the path to a fuller, more general, and probably more abstract comprehension of how individuals, possessed of the same knowledge, arrive at different understandings.

We have explored aspects of children’s early understanding of interpretation in relation to their social lives but we should be clear that this is just a single step in children’s epistemic development. We are not proposing a “two-miracle” view of epistemic development. Such a suggestion would be inconsistent both with our own findings that children offer different interpretations before they can adequately explain the simultaneous legitimacy of both views and that multiple interpretations of conflicts may be easier than multiple interpretations of ambiguous language or pictures and with other work documenting that epistemic understanding continues to develop through childhood and adolescence (e.g., Chandler, 1987; Hallet, Chandler, & Krettenauer, 2002; Mansfield & Clinchy, 2002). Rather, the gradual development of interpretive understanding and its earlier development in a socially embedded conflict task are consistent with the constructivist perspective of the important role of social interaction for the development of social understanding (Carpendale & Lewis, in press).

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REFERENCES


APPENDIX: CONFLICT INTERPRETIVE STORIES

Blocks
John and Maggie are brother and sister. One day, their mom tells them that she is going to take them to the park in a little while. She says, “Before we go to the park you have to tidy up all of your toys.” John and Maggie go back to the playroom. All morning John has been working on a huge block tower. He finishes it, and says, “This is the best block tower I’ve ever made!” He doesn’t put away his blocks yet. Maggie says, “This room is a mess!” She picks up all the blocks from the tower and puts them in a bag. John starts to cry. He shouts “Maggie, you dummy! What did you do?” Maggie starts to cry too, she shouts, “Don’t call me a dummy!”

Bat
Peter and Helen are brother and sister. It is Halloween, and they are both taking costumes for the contest at school. The winner of the contest gets a really cool prize. Before they go to school, Peter realizes that he is missing one piece for his costume. He asks Helen: “Can you bring your bat to school for me? I have lots of other stuff that I need to carry.” Helen says sure. Helen finds a baseball bat and hairy rubber bat. She grabs the hairy rubber bat to take for Peter. Helen and Peter go to school. When the contest is starting, Helen gives Peter the hairy rubber bat. Peter is wearing a baseball player costume so he needs the baseball bat instead. “Oh no,” Peter says, “You ruined my costume, you jerk!”

Car
Joanna and Billy are sister and brother. They go for lots of car rides with their mom. They both like to ride in the front and hate to ride in the back. Usually they take turns riding in the front. One day, their mom takes them to the zoo and Billy gets to ride in the front but Joanna has to sit in the back. Later, their mom takes them to get ice cream and Joanna gets to ride in the front but Billy has to sit in the back. When Billy has to go to his piano lesson, Joanna stays home, so Billy gets to ride in the front. The next day, their mom is going to take them to school. Billy starts to get into the front seat. Joanna says, “It’s my turn! You got to sit in the front seat last time!” Billy says, “You didn’t have to sit in the back, so that isn’t fair. It’s my turn.” Billy and Joanna start to fight over who gets to ride in the front seat.

Puppy
Dad promises Jack and Wendy that they can have a puppy. They decide to name him Spot. The next day, Wendy bugs Dad, who says that they’ll get the puppy very
soon, don’t worry. On Jack’s birthday, Dad brings out a puppy with a ribbon tied around his neck. He has spots. Jack plays with him for a long time. After, Wendy starts to play with him and Jack warns her to be careful with his puppy. “Your puppy!” she says, “This isn’t just your puppy. Spot is just as much my puppy as your puppy.” She keeps playing with the dog and Jack goes to tattle on her.