Shading the Truth: Self-Serving Biases in Children’s Reports of Sibling Conflicts

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Siblings between 4 1/2 and 9 1/2 were interviewed concerning positive and negative actions of self or sibling that either did or did not occur in past conflicts, and then asked to describe these disputes. Children evidenced self-serving biases, ascribing positive actions to themselves more than to their siblings. Additionally, younger siblings denied their negative actions; older siblings admitted to, but spontaneously explained, their negative actions; they also excluded such actions from their narratives. Moreover, differences between children’s accurate and inaccurate responses (in latencies to respond, integration of actions in narratives, and explanations for actions that did or did not occur) suggest that children’s attempts to manage the impressions they make on others contribute to biased reports of past conflicts.

It is commonly held that there are two sides to every story. This may be particularly evident when antagonists report on past conflicts. Differing conflict goals make some events more salient to one person than to another, and current motives prompt individuals to think favorably about themselves. The tendency to enhance oneself and to blame others for past disputes is present in young children’s appraisals and narratives.
of past conflicts (McGuire, Manke, Eftekhari, & Dunn, 2000; Shantz, 1993; Wilson, Smith, Ross, & Ross, 2004). The current study was designed to examine how children stray from the truth in interviews concerning past conflicts and whether there are detectible differences in accurate or inaccurate reports of past conflict actions.

Three past studies have established that children are indeed biased in their conflict reports (McGuire et al., 2000; Shantz, 1993; Wilson et al., 2004). Shantz (1993) asked 7-year-old children to describe two recent conflicts with a classmate. These children blamed others for initiating conflict more than six times as often as they accepted responsibility themselves and reported that they, rather than their antagonists, were responsible for suggesting ways to resolve their differences. Similarly, McGuire et al. (2000) interviewed siblings (from 8 to 11 years of age) about their conflicts with one another. Each child nominated and described a recent conflict, but the two children were not constrained to talk about the same event. Like Shantz, McGuire and her colleagues found that both children, but especially older siblings, held the other responsible for starting fights. Children agreed that older siblings won more fights but evidenced little agreement regarding the specific issues in dispute. This lack of agreement may have occurred largely because children individually selected the conflicts on which they reported; it is not clear that the two siblings were telling two sides of the same story. Indeed, they each may have selected a conflict in which they were relatively blameless to share with researchers. Likewise, Shantz’s (1993) results could have resulted from a biased selection of conflicts that children chose to discuss. To differentiate between biases in the selection and representation of past disputes, one needs to ask both participants about the same conflict.

Accordingly, Wilson et al. (2004) asked 3- to 9-year-old siblings to each describe conflicts that parents had previously identified as relatively important for the pair. Children reported significantly more harm, such as aggression or property damage, perpetrated by their siblings rather than themselves, but there were no self/other differences in reports of benign conflict actions. Children also specified circumstances that mitigated the blame for their own conflict actions. What we do not learn from this study is whether biases consist of errors of omission (were children reporting their siblings’ harmful behavior but failing to report their own?) or of commission (were children reporting conflict behavior of self or other that did not, in fact, occur?) Furthermore, although the tendency to enhance self may be present throughout development (Cairns & Cairns, 1994), there may be
age-related changes in how this is accomplished. Wilson et al. (2004) found that older siblings were more likely to justify their own conflict transgressions, whereas younger siblings more often simply denied them. Additionally, older siblings reported that they had taken positive actions, such as making restitution for their wrongdoings, more often than their siblings had. Thus, we might expect older siblings to use more subtle and varied means to proclaim their own relative innocence; specifically, they might be more likely than their younger counterparts to explain their own negative actions and to exaggerate their own positive and their siblings’ negative contributions to their disputes.

In the current study, we collected parents’ reports of their children’s conflicts and asked specific questions concerning positive and negative actions that parents reported as either having occurred or having not occurred during the conflicts. Thus, it was possible to compare reports concerning self and other on the selection or omission of both positive and negative conflict actions, and assess whether children were fabricating or denying their own or their siblings’ benevolent or harmful conflict actions. Differences in such processes between older and younger siblings could also be examined.

An additional goal of this study was to assess two potential sources of self-serving bias in children’s reports of past conflicts: memory versus self-presentational effects (Ross, Ross, Wilson, & Smith, 1999; Wilson et al., 2004). On the one hand, distorted views of past conflicts could result from biases in memory. Memory biases can arise when events are appraised, interpreted, or related to generic events or other sources of knowledge or belief (e.g., Brainerd & Reyna, 1998; Greenhoot, 2000; Ornstein, Shapiro, Clubb, Follmer, & Baker-Ward, 1997; Schneider & Bjorklund, 1998; Stein, Wade, & Liwag, 1997). Brainerd and Reyna (1998) proposed that gist (the meaning-laden memory of events) is stored separately from the precise verbatim representation of the surface features of an event. They have shown that verbatim traces fade more rapidly than gist; however, verbatim representations cannot produce systematically biased reports. In contrast, if children have prevailing perspectives of themselves as good people who are unlikely to injure others and of siblings as not quite so good, then actions consistent with these views could be integrated into gist representations and inconsistent actions omitted (Greenhoot, 2000; Stein et al., 1997). Accordingly, children would selectively represent the wrongdoings of others and their own positive attempts to resolve differences in their memories of past conflicts.
Alternatively, the children could have unbiased representations of their conflicts but consciously portray themselves as the more innocent and aggrieved partner in order to make a better impression on those to whom they report past events. Children as young as 2 years of age tend to share their successes more than failures with others, to lie to protect themselves, and to report their siblings' rather than their own wrongdoings to their parents (den Bak & Ross, 1996; Dunn & Munn, 1985; Ross & den Bak-Lammers, 1998; Stipek, Recchia, & McClintic, 1992; Wilson, Smith, & Ross, 2003). Selective tattling on siblings and lying continue well beyond the second year, growing more frequent throughout the preschool years. Young children's self-serving deception has also been investigated in a series of laboratory studies (Lewis, Stanger, & Sullivan, 1989; Polak & Harris, 1999; Talwar & Lee, 2002) in which children transgress by looking at a forbidden toy, and then cover up their wrongdoings by denying that they had peeked. By selecting what they say to others, children seem to be both motivated and able to manage the impression that they convey to the world.

To assess whether children's self-serving biases could be attributed to their desires to make a favorable impression, we looked for evidence of qualitative differences in children's responses to questions about events that parents had reported as occurring and those that they had reported as having not occurred. If children's errors reflect information encoded in their memories of events, then their accurate and inaccurate reports should not be distinguishable. If children consciously distort the truth in the service of managing the impression they make on others, true and false reports should differ, because true statements require that the children simply report what they remember, whereas false reports must also be deliberately altered from memory. Ekman (1997, p. 340) makes much the same argument: "There should be no behavioral clues that the account is untrue if the person giving the account does not believe he is lying at the moment he gives the account." Accordingly, we looked for differences in the latency to respond to questions about conflict actions that parents said either had or had not occurred, and we examined the degree to which actions that were either affirmed or denied were integrated into children's subsequent accounts or explanations of conflict actions.

To our knowledge, latencies to respond have not been investigated in other reports of children's deception. We reasoned that the production of a false report, either denying actions that had happened or affirming those that did not occur, would require more analysis on the part of the children than a veridical report of the event. If children are shaping their stories to create a positive impression, they would have to
first remember whether the behavior in question did occur, determine the likely impact of an accurate response on the image they would convey to the researcher, and consider the advisability of falsifying their reports. Thus, we predicted longer delays in the children's responses to interviewers' questions when their reports were false than when they were true. De Paulo (1994) reports that adults take longer to plan lies than truthful statements, and that the speech of liars is more contradictory and less fluent than that of truth tellers. If, on the other hand, the self-serving distortions that we anticipate result from memory biases, then children would not have to specially assess the false information that they report and no latency differences would be anticipated between accurate and inaccurate responses to the interviewer's question. Latencies to respond tend not to be reported in studies of children's event memories; however, Loftus, Donders, Hoffman, and Schooler (1989) have demonstrated that adults were quick and confident in their responses to forced-choice recognition items concerning a depicted crime if their responses were based on their memories of the events, regardless of whether they were accurate or inaccurate.

Additionally, we expected that false information reported in the service of creating a good impression would not be well integrated with other parts of the children's representations of events. Thus, after initial closed-ended questioning, we asked the children to tell us what happened throughout the dispute, using only open-ended prompts to encourage children's conflict narratives. We predicted that actions that were falsely affirmed would be less likely to be included in the children's narratives than those actions that were truthfully reported as occurring. Conversely, actions that were denied but that did occur would be more likely to be included in children's narratives than those that had been truthfully denied. Such findings would be consistent with results showing that young children betray the deceptive nature of their denials of wrongdoing by correctly identifying the toys they claimed not to have seen (Polak & Harris, 1999; Talwar & Lee, 2002).

These predictions, however, are not consistent with theory and evidence arising from the memory literature. False memories induced by interviewer questions or misinformation are likely to be repeated in response to specific questioning or in open-ended reports (Cassel & Bjorklund, 1995; Ceci & Brunk, 1993; Greenhoot, 2000; Hayes & Delamothe, 1997; Leichtman & Ceci, 1995; Poole & White, 1991). Indeed, evidence indicates that children's initially inaccurate responses are sometimes repeated more consistently on retest than initially accurate responses, a result attributed to the likelihood that inaccurate responses are based on gist, accurate responses on verbatim recall, and
gist memory is longer lasting than verbatim memory (Brainerd, Reyna, & Brandse, 1995; Payne, Elie, Blackwell, & Neuschatz, 1996). The event memory literature also indicates that younger children tend to be relatively more susceptible to suggestive questioning than older ones (Cassel & Bjorklund, 1995; Ceci & Brück, 1993; Ornstein, Gordon, & Larus, 1992). By this account, younger siblings in the current study should be more likely to affirm actions that didn't happen, regardless of the valence or the alleged perpetrator.

Finally, for all actions that the children said had taken place, we asked why the protagonists acted as they did. We expected that children would be less able to explain actions that did not actually occur than those that did take place. This is because actions that took place were embedded in the ongoing goal-directed action of the conflict, whereas those that did not occur could not be as easily related to other causal events in the narrative (Stein et al., 1997). Alternatively, if children's inaccurate information, as well as their accurate responses, were related to the meaningful interpretation of the gist of the event, both could be explained readily in relation to the event itself.

To summarize, the goals of this study were to replicate the self-serving bias in children's reports of past sibling conflicts; to determine whether children were omitting their own negative actions or emphasizing negative actions of their siblings; and, similarly, whether they were omitting their siblings' positive conflict actions or fabricating positive actions of their own. Furthermore, we wished to examine possible differences in older and younger siblings' distortions of actions of self versus other. Finally, we sought evidence of qualitative differences in children's accurate and false reports because such differences would suggest that children are deliberately shading what they believe to be true in presenting themselves as relatively more innocent and their siblings as relatively more responsible for their mutual conflicts.

**Method**

**Participants**

Twenty-seven English-speaking families from a midsized community in Southern Ontario participated in this research. Each family included an older sibling who ranged in age from 7.3 to 9.6 years ($M = 8.3$ years) and a younger sibling who ranged in age from 4.5 to 7.3 years ($M = 5.9$ years). Sibling dyads were made up of equal numbers of every possible gender combination, but with one fewer ($N = 6$) older brother/younger sister pair. In total there were 27 female and 27 male children. All families included two parents. The education level of the
parents ranged from having completed elementary school (4%) to having completed a university degree (30%). Parents attended all sessions with their children and were informed, both in initial interviews and in writing, about the procedures of the study. Parents signed letters of consent for their children's participation, with the proviso that such consent could be withdrawn at any time during the procedure.

**Procedure**

For a 2-week period, parents reported each day on all sibling conflicts that had occurred and provided information concerning what each conflict was about, how it began and unfolded, two good things and two bad things that each child did during the conflict, and two good things and two bad things that could have taken place but that definitely did not happen during the conflict. They also reported on whether either parent was present when the conflict began and rated the importance of each conflict on a scale from 1 to 10 for each child. Parents called a university phone number and recorded their conflict reports on a voice-mail system.

Two days before the children's scheduled interview, a researcher selected two conflicts from the parent phone records based on the following criteria, applied in the order listed: (1) the presence of a parent during the conflict, (2) the uniqueness of the conflict (i.e., how easily it was discriminated from other reported events and how recently the conflict had occurred), (3) which child instigated the conflict, and (4) the importance of the conflict for both children. These selection criteria increased the likelihood that parents and children would remember the conflicts and that perpetrators would be balanced across the two conflicts. Usually we chose conflicts that had occurred within a week of the children's interviews. Interviews for the children included one positive action and one negative action per child that had occurred, and one plausible positive and negative action that did not actually occur for each child. We conceptualized positive actions as prosocial, helping, caring behaviors and negative actions as hurtful or aggressive behaviors that initiated or maintained conflicts. Occurring and nonoccurring behaviors were maximally differentiated to prevent children from confusing similar actions.

A telephone interview with the parent who had witnessed the conflict then took place to verify and correct information about whether the actions had or had not occurred, and whether those that had not occurred were, indeed, feasible for the child in the circumstances of the conflict. An additional purpose of this interview was to gather contextual information that would help the interviewers effectively remind the children of the specific conflicts.
The children's interviews began with interviewers explaining they would ask about some problems that the children had with their siblings to learn how much children remember about such events. The interviewers told the children that we had talked with their parents about some problems that happened in the last week or so and assured the children that neither they nor their siblings would get into any trouble by telling us what they remembered about the event. The purpose of this introduction was to explain the source of our knowledge about their conflicts, to assure the children that there would be no negative repercussions of any information they revealed, and to frame the interview as a general assessment of children's memory. Individuals who interviewed the children did not interview the parents and did not know which actions had or had not taken place.

It took approximately 10 minutes to interview each child on both conflicts. The interviews consisted of four parts, always in the same order. First, children were given contextual information (the day, location, time, and object or issue in dispute) to remind them of the specific conflict. Contextual information never included specific actions of either sibling and was neutrally framed so as not to influence children's reports in any way. Second, they were asked eight specific closed-ended questions about their own and their siblings' actions during each conflict. These questions always contained one positive and one negative action performed by each sibling and one positive and one negative action that was not performed, but could have been, by each sibling. The order of presentation of these items was identical for the two siblings but counterbalanced for the two conflicts within each family and across the families. Third, the children were asked to tell the story of what happened in their own words. If children were unable to generate a story, the interviewers used a standard set of prompts (“How did this problem start?” “What happened next?” “What did you [or your sibling] do?” “How did it end?” and “Is that everything that happened?”) to encourage them to produce a narrative. Fourth, interviewers confirmed the children's earlier reports that actions had or had not occurred (“You said that you told him [didn’t tell him] you were sorry. Are you sure that you did [didn’t do] that?”). In 89% of the cases children reconfirmed their earlier responses, and changes did not depend on the child's original response, or on age or type of item. Immediately after an action was confirmed, the children were asked why they thought either they or their sibling had taken that action. If they said that an action had not happened, they were not questioned further about it. The interviews were audio and video recorded.

When the children were interviewed, parents were given a copy of the interview questions so that they could record their comments con-
cerning the interviews. Parents were asked specifically to include whether they thought their child was remembering the correct conflicts, whether they thought either child was confusing two or more conflicts, and whether their children's responses raised any doubts in their own minds concerning their earlier reports of whether actions had or had not occurred. Parents' comments were used to omit conflicts from analysis when parents thought that the child confused a conflict with another conflict (three times), and to omit items when parents indicated that they themselves might have been mistaken about the occurrence of a conflict action (three times). To allow parents to watch both interviews, each child was interviewed separately and in sequence by his or her own interviewer while the other child played in another room. The order of the children's interviews was counterbalanced so that the older and younger siblings were interviewed first equally often.

**Coding**

The interview for each conflict contained eight questions that required the children to either affirm or deny the occurrence of specific conflict actions. Children generally responded to these closed-ended questions with "yes" or "no." They also nodded or shook their heads to affirm or deny conflict actions, or said that they didn't know or didn't remember whether an action had occurred. In addition, the children sometimes failed to respond directly to the question but rather commented spontaneously on an action in a way that provided information that either affirmed or denied its occurrence. For example, a child asked "Did Rachel hit you?" denied the hitting with the response "She pinched me"; a child asked "Did Nathan apologize to you at the end?" affirmed the action by responding "And I apologized too." Some spontaneous comments served to explain why a child had either taken or not taken an action (e.g., "Did you give Jason the basketball to play with when he first asked?" "Well, I was just practicing."). Such spontaneous justifications were separately coded for further analysis. Two coders independently coded data from 10 families on children's responses (yes, no, don't know, kappa = .98) and spontaneous justifications (kappa = .81).

Next, the time that it took children to respond to the interviewer's questions was measured. Latency to respond was measured from the end of the interviewer's question until the beginning of the word that answered it (generally the onset time of the yes, no, don't (know) or the beginning of a nod or head shake) with the aid of the Observer Pro video analysis program. In cases where the child responded with additional information, coders first identified the word that made clear
whether the child was affirming or denying the occurrence of an action, and then timed the children's responses to the onset of that word. In the examples used previously, the critical words were *pinched* (indicating that the child did not hit), *too* (confirming that the child also apologized), and *practicing* (making clear that the child delayed giving his brother the ball by explaining why he did so). Once the critical response words were identified, the latency to respond to interviewers' questions was assessed from the digitized videotapes. Two coders independently coded data for 12 families to identify the word that marked the point at which each response was made clear (kappa = .87), and two coders timed the latency to respond for all of the response data in eight families. Because this latter variable was continuous, reliability was calculated by correlating the responses of the two coders across the 216 latencies that were timed. The correlation was .99, and the two agreed within a quarter of a second on 89% of their judgments.

The children's narratives were coded for inclusion or exclusion of the information contained in the eight questions that the interviewers asked at the beginning of the interview. All such information was coded as included (actions from questions were mentioned in the narrative) or omitted (actions in the questions were not included in the narrative) from the narrative. Two independent raters coded the data from 10 families with kappa = .80.

Children's elicited explanations, as well as all of the justifications that the children made spontaneously during the first phase of the interview (closed-ended questions), were coded. In this coding, *actor* always refers to the child who took the action, and *adversary* refers to the sibling who was the recipient of the action. The explanation codes were (1) *Actor's Goals*—the action was taken because of something the actor wanted; (2) *Adversary's Goals*—the action was taken to satisfy a goal of the sibling; (3) *Actor's Emotions*—the action was taken because of the emotion of the actors; (4) *Entitlement*—the action was justified because of a right or fairness principle; (5) *Parent Intervention*—the action was taken because a parent intervened; (6) *Actor's Disposition*—the action occurred because of an enduring personal characteristic of the actor; (7) *Situational Factors*—the action resulted from external situations or internal states that were not controlled by the children (e.g., "because Wendy wasn't there"), or internal states unrelated to the conflict (e.g., "because we were tired"); (8) *Actor's Prior Actions*—the action followed from prior behavior of the same person; (9) *Adversary's Prior Actions*—the action followed from prior behavior of the other person; and (10) *Don't Know*. Independent coders agreed on the categorization of explanations with kappa = .89 using data from 10 families.
Results

Each child was asked eight questions about each of two sibling conflicts. Children responded to the questions posed, but, in three cases, parents judged that a child was actually thinking about another similar sibling conflict that had occurred at some other time. These three events (one for older siblings and two for younger ones) were not included in any analyses. In three additional cases parents reconsidered whether the action had or had not occurred, and questions concerning these specific actions were not included in analyses for either sibling in these families. The result was that both children in 21 families had complete data, both children in 3 additional families had data for 15 of 16 questions, and for the final 3 families, 1 child’s data was complete whereas the other child responded only with respect to a single conflict. Thus, missing data were minimal and each child responded at least once (but most often twice) to each type of item (i.e., positive versus negative, happened versus did not happen, and self versus other).

Data consisted of affirming or denying actions and the frequency of spontaneous justifications in the closed-ended portion of the interview, inclusion of target items in the child’s narratives of the events, and explanations offered for actions that the children said had occurred. The first set of analyses established whether there were biases in children’s responding. A second set of analyses concerned qualitative differences in the children’s responding that were associated with the accuracy of their recall. Aside from analyses of dyad gender, all statistical comparisons are by repeated-measures ANOVAs or t tests with the family as the unit of analysis. Although a thorough analysis of gender would require a larger sample, preliminary analyses of the four gender combination groups found no main effects of gender and no simple interactions of gender with any of the factors in any analyses reported below. Thus, gender is not considered further in this report.

Self-Serving Biases in Children's Responding

Factors for these analyses were Age (Older versus Younger Sibling), Actor (Self versus Other), Valence (Positive versus Negative Action), and Happened (Parents’ report that the event Had or Had Not occurred). Responses were summed across the two conflicts from each child’s interview. Self-serving biases would be indicated if children affirmed or included in their narratives relatively more negative actions of sibling than of self, and relatively more positive conflict actions of self. Children could also provide self-serving explanations of affirmed actions. Errors of omission or commission would be indicated by consideration of whether the actions attributed to self or sibling had or had not occurred.
Affirming and denying actions. Children responded to interviewers’ specific questions about whether the actions attributed to either themselves or their siblings occurred during their disputes. Children said that they didn’t know whether or not an action had taken place only 29 times (14 times in response to questions about actions parents said had occurred and 15 times to actions that had not occurred). Because of their low frequencies, “don’t know” responses were excluded from further analyses. To account for cases of missing data as outlined previously and for all “don’t know” responses, all frequencies of responding for children with missing data were prorated to be equivalent to two responses to items of each type.

The repeated-measures ANOVA of the frequency of affirmed actions indicated a strong main effect for Happen, $F(1, 26) = 87.35, p < .001, \eta^2 = .77$, and interactions of Actor $\times$ Valence, $F(1, 26) = 8.39, p = .008, \eta^2 = .24$, and Age $\times$ Valence, $F(1, 26) = 15.66, p < .001, \eta^2 = .38$. The main effect of Happen indicates that children generally agreed with their parents’ accounts; they affirmed actions that had happened and denied those that had not. Of the eight actions that had occurred, children correctly affirmed 5.50, $SD = 1.08$, and falsely affirmed only 2.74, $SD = 1.36$, actions that had not taken place (correctly denying the occurrence of 5.26 such actions, on average, $SD = 1.36$). Children’s rates of false affirmations and denials were relatively equivalent, and younger siblings showed no particular tendencies to incorrectly affirm actions suggested in the interviewers’ questions.

The Actor $\times$ Valence interaction demonstrates the bias in children’s responding. Children were more likely to affirm positive actions attributed to self than to other, $t(26) = 2.57, p = .016$. Furthermore, older siblings were more likely to affirm and younger siblings to deny younger’s negative actions that did happen, $t(26) = 4.09, p < .001$. In contrast, older siblings affirmed their own actual negative actions at a higher rate than their younger siblings attributed these same actions to them, $t(26) = 2.50, p = .019$ (Table 1). The Age $\times$ Valence interaction reflects the tendency of younger siblings to affirm positive actions significantly more often than negative ones, $t(26) = 3.20, p = .004$. Their older siblings actually reversed this pattern slightly, affirming more of the negative actions and fewer of the positive actions contained in the interviewers’ questions (Table 1).

Spontaneous justifications. Children sometimes avoided direct responses to interviewers’ closed-ended questions by explaining why actions were or were not taken. An effect of Actor, $F(1, 26) = 5.08, p = .033, \eta^2 = .16$, as well as an Age $\times$ Actor interaction were found, $F(1, 26)$
Table 1. Self-Serving Biases in Children’s Interviews Concerning Two Sibling Conflicts

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Frequency of spontaneous justifications

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Frequency of target actions included in narratives

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Explanations for affirmed actions

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<td>.22 (.09)</td>
<td>.17 (.07)</td>
<td>.00 (.00)</td>
<td>.22 (.11)</td>
</tr>
<tr>
<td></td>
<td>Younger sibling</td>
<td>.19 (.09)</td>
<td>.16 (.08)</td>
<td>.06 (.04)</td>
<td>.24 (.13)</td>
</tr>
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</table>

Note: Standard deviations appear in parentheses. Frequencies were out of a possible total of 2. Data for explanations were calculated by dividing frequencies of each explanation by the frequency of affirmed actions in each category.
The interaction was due to older siblings justifying their own actions more than those of their siblings, \(t(26) = 3.68, p < .001\), and younger siblings doing the reverse, justifying the actions of their older brothers and sisters more often than their own, \(t(26) = 2.22, p = .035\) (Table 1). However, two three-way interactions were also found for Happen X Valence X Actor, \(F(1, 26) = 6.24, p = .019, \eta^2 = .19\), and Happen X Valence X Age, \(F(1, 26) = 4.69, p = .04, \eta^2 = .15\). Essentially, justifications were offered most often by the older siblings for their own negative actions that happened, which accounted for the interactions found; older siblings justified the negative actions that they took more often than they justified their siblings' negative actions, \(t(26) = 3.61, p < .001\), more often than they justified their own negative actions that did not occur, \(t(26) = 2.21, p = .036\), and more often than their younger siblings justified their own negative actions, \(t(26) = 3.06, p < .001\).

Children's narratives of their conflicts. Children were asked to describe everything that happened during the event, and from these narratives, we calculated the proportion of actions that children either affirmed or denied that were included in narratives. Only the eight actions from each conflict specified in the closed-ended interview were considered. Coders were not aware of which actions had or had not occurred. All of the older siblings and 23 of the younger ones told narratives in which at least some of the actions contained in the interviewers' questions were included.

Overall, older siblings included more of the target actions in their narratives than did their younger counterparts, \(F(1, 26) = 10.20, p = .004, \eta^2 = .28\), and both siblings included more actions that happened than didn’t happen, \(F(1, 26) = 42.24, p < .001, \eta^2 = .62\). The interaction between Actor and Valence, \(F(1, 26) = 11.27, p = .002, \eta^2 = .30\), indicates that the narratives were also self-serving. Children included more positive actions for self than for other, \(t(26) = 3.70, p < .001\), and more negative actions that happened for other than for self, \(t(26) = 2.60, p = .015\); however, neither child included many negative actions of either self or other that had not taken place (Table 1).

Explaining the actions of self and sibling. In total, 554 elicited explanations and spontaneous justifications were given to account for the positive and negative conflict actions attributed to both children. Because children were asked to justify only actions that they agreed had occurred, and could, on occasion, offer more than one reason for a given action (i.e., if spontaneous justifications had been offered earlier), these data were divided by the number of times that children affirmed
actions of any type, creating a ratio of specific justifications divided by opportunities to justify a response. Initial analyses indicated that children used some explanations more often than others, $F(9, 43.16, \text{adjusted via the Greenhouse-Geisser correction for heterogeneity of variance}) = 9.74, p < .001, \eta^2 = .45$. Adversary's Prior Actions ($M = .37, SD = .21$) and Actor's Goals ($M = .33, SD = .18$) were the most frequent reasons given. Others, in order of frequency, were Situational Factors ($M = .16, SD = .11$), Parent Intervention ($M = .14, SD = .17$), Actor's Disposition ($M = .11, SD = .11$), Adversary's Goals ($M = .09, SD = .08$), Entitlement ($M = .07, SD = .08$), Actor's Emotions ($M = .06, SD = .07$), and Actor's Prior Actions ($M = .03, SD = .06$). Children seldom responded that they didn't know why either actor had taken the actions that they did ($M = .07, SD = .07$).

To explore whether children's reasoning was self-serving, we analyzed the five most frequent reasons in a set of Age X Actor X Valence repeated-measures ANOVAs. Self-serving biases were indicated by Actor X Valence interactions, which were found for Actor's Goals, $F(1, 12) = 6.87, p = .022, \eta^2 = .36$, and Situational Factors, $F(1, 12) = 7.03, p = .021, \eta^2 = .37$ (Table I). No three-way interactions were found, indicating that the effects applied to both older and younger siblings. Children were more likely to explain their siblings' negative rather than positive actions with reference to the Actor's Goals, $t(12) = 2.54, p = .026$, and to explain their siblings' positive rather than negative actions in terms of external Situational Factors, $t(12) = 3.28, p = .007$. In other words, their siblings did bad things because of internally motivated goals and did good things because of the situations in which they found themselves. Children were also more likely to explain that their own rather than their siblings' positive actions were motivated by Actors' Goals, $t(12) = 4.38, p < .001$, and that their own more often than their siblings' negative actions were a result of Situational Factors, $t(12) = 2.86, p = .014$.

**Distinguishing Accurate and Inaccurate Responding**

To investigate the process underlying children's self-serving biases, we explored differences in the qualities of children's accurate and inaccurate responses. We reasoned that if inaccurate responses were due to biased, inaccurate information being encoded in memory, then qualitative features of accurate and inaccurate responses would not differ. If inaccuracies were due to efforts to control the impressions they made on others, then differences would be expected between true and false reports: namely, children would take longer to respond when information was inaccurate, they would be less likely to integrate affirmed
actions that did not happen into their narratives, and they would be more likely to include in their narratives actions that they had denied, but that had occurred. We expected that they would not be able to explain actions falsely attributed to self or other or that there would be differences in the nature of their reasoning. There were four categories of items for each child: affirmed actions that had occurred, affirmed actions that had not occurred, denied actions that had occurred, and denied actions that had not occurred.

**Latency to respond.** To analyze the time that it took for children to respond to the interviewers' questions, we averaged each child's response times for actions that happened and were affirmed versus denied, and actions that did not happen and were affirmed versus denied. A repeated-measures ANOVA, with Age, Happened, and Response (Affirmed versus Denied) as variables was conducted on these average latencies to respond. There was a trend for younger siblings to respond more rapidly than older siblings, \( F(1, 16) = 3.50, p = .08, \eta^2 = .18 \). In addition, the interaction between the children's responses and whether actions had taken place (Happened) was significant, \( F(1, 16) = 9.32, p = .008, \eta^2 = .37 \). Children responded more rapidly when they affirmed actions that happened, or denied actions that did not take place (the truthful responses according to parents' reports) than if they either denied actions that took place or affirmed those that did not (Table 2). The three-way interaction was not significant, indicating that both older and younger siblings showed similar patterns in the latencies of their responding to the interviewers' questions. Finally, although children's latencies to respond were longer when they made spontaneous comments than when they responded "yes" or "no," they took longer to respond when their information was false rather than true in both cases.

**Including affirmed actions in conflict narratives.** Two analyses assessed whether actions that had been either affirmed or denied in the closed-ended interviews were included in the children's narratives. The frequencies of actions included in children's narratives were divided by the frequencies of actions that were either affirmed or denied in response to interviewers' questions in each cell of the design (affirmed–happened; affirmed–didn't happen; denied–happened; denied–didn't happen). Affirmed and denied actions were analyzed separately in two repeated-measures ANOVAs with Age and Happen as factors (Table 2). When children said that the action had occurred, but it had not, they were less likely to include it in their narratives than if it had actually taken place. This was verified by a main effect of Happen in analysis of affirmed actions, \( F(1, 25) = 4.76, p = .039, \eta^2 = .16 \). The analysis of
<table>
<thead>
<tr>
<th>Latency to respond (sec)</th>
<th>Older</th>
<th>Younger</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Happened</td>
<td>Didn’t happen</td>
</tr>
<tr>
<td>Affirmed</td>
<td>2.67 (.61)</td>
<td>3.34 (.67)</td>
</tr>
<tr>
<td>Denied</td>
<td>4.18 (1.41)</td>
<td>1.58 (.29)</td>
</tr>
</tbody>
</table>

| Proportions of affirmed and denied actions that were included in narratives |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|
|                             | Included in narrative | Affirmed | .53 (.04) | .34 (.08) | .35 (.06) | .26 (.08) |
|                             |                    | Denied | .26 (.07) | .00 (.00) | .04 (.03) | .02 (.01) |

<table>
<thead>
<tr>
<th>Explanations of affirmed actions</th>
</tr>
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<tbody>
<tr>
<td>Actor’s Goals</td>
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<tr>
<td>Situational Factors</td>
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<td>Adversary’s Prior Actions</td>
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<td>Parent Intervention</td>
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<td>Actor’s Disposition</td>
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<tr>
<td>Don’t Know</td>
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</tbody>
</table>

**Note:** Means for children’s inaccurate responses (affirmed actions that didn’t happen or denied actions that happened) are in bold. Standard deviations appear in parentheses. Data for explanations were calculated by dividing frequencies of each explanation by the frequency of affirmed actions in each category.
denied actions yielded main effects for both Age, $F(1, 23) = 6.26, p = .020, \eta^2 = .21$, and Happen, $F(1, 23) = 14.03, p < .001, \eta^2 = .38$, and an interaction of Age $\times$ Happen, $F(1, 23) = 9.41, p = .005, \eta^2 = .29$. The interaction results from older, but not younger, siblings including previously denied actions significantly more often if they had taken place than if they had not, $t(23) = 3.51, p = .002$.

Children's explanations of actions that had or had not happened. In this final set of analyses, we compared children's explanations for actions that did and did not happen. Frequencies of each explanation were divided by the number of affirmed actions that had or had not occurred, and Age $\times$ Happen repeated measures ANOVAs were conducted. As before, we analyzed data for the five most prominent explanations and also included “don't know” responses as we expected these to occur more often when children explained actions that had not occurred. Levels of “don't know” responses were low, however, and did not differentiate between actions that had or had not occurred. In contrast, two categories of explanations did depend on whether the event happened (Table 2). First, there was an Age $\times$ Happen interaction for explanations that children's actions were prompted by parent intervention, $F(1, 23) = 9.70, p = .005, \eta^2 = .30$. Younger, but not older, siblings were more likely to attribute actions that had occurred to parent intervention, $t(25) = 2.55, p = .017$. Second, both older and younger siblings attributed actions that did not happen (but that they said had happened) to enduring personal dispositions of the actors. This analysis yielded a main effect of Happen, $F(1, 23) = 9.84, p = .005, \eta^2 = .30$, and no interaction. The other explanations that were analyzed (Actor's Goals, Situational Factors, Adversary's Prior Actions) didn't significantly differentiate between actions that had or had not taken place, although both older and younger siblings used all three of these situationally based explanations more often for events that had taken place. When all three situationally based explanations were analyzed together, they did yield a significant effect for Happen, $F(1, 23) = 8.37, p = .008, \eta^2 = .27$, indicating that children drew on the circumstances of the conflict to explain actions that did take place.

**Discussion**

**Self-Serving Biases**

This study replicated and extended earlier findings of a self-serving bias in children's representations of past disputes. The bias was found in children's responses to specific closed-ended questions about what
they or their siblings had done, in their narrative reports of the same events, and in the explanations offered for their own or their siblings’ conflict actions. Self-serving biases, however, were more subtle than blatant. The children basically told the truth about most conflict events in that both older and younger siblings agreed with information provided by their parents.

In particular, it is noteworthy that younger siblings did not tend to indiscriminately agree to actions suggested by interviewers’ questions. They were no more likely to acquiesce than were their older brothers or sisters, and inaccurate responses resulted equally from affirmations of actions that had not occurred as from denials of actions that had occurred. This finding is not consistent with reports from the memory literature of greater suggestibility of preschool-aged children (Cassel & Bjorklund, 1995; Ceci & Bruck, 1993; Ornstein et al., 1992). However, that literature generally includes misleading information in narrative form or leading questions. Additionally, some researchers have found that peripheral rather than central elements of initial experiences are more readily changed in the face of misleading information (Poole & White, 1991; Schneider & Bjorklund, 1998). Our focus on central elements of a dispute and the neutral question format may account for the fact that the children were not inclined to agree indiscriminately with adult interviewers.

Despite the overall truthfulness of their accounts, children did portray themselves as relatively innocent in comparison with their siblings. They tended to exaggerate their own positive contributions to conflicts by affirming more of their own than of their siblings’ positive contributions that did occur. Children also attributed their own more than their siblings’ good actions to personal goals that motivated them to do good, even in the context of interpersonal disputes, and included more of their own than of their siblings’ good acts in their narratives. Biases were also shown for positive actions that didn’t happen, errors of commission; in fact, children agreed about half of the time that fictitious positive actions attributed to themselves had indeed occurred, but were less likely to do so when their siblings’ actions were concerned. They were also more likely to include in their narratives their own positive actions that had not happened than those of their siblings. One in three positive self-attributed target actions described in the children’s narratives did not take place, according to parents’ reports.

Differences between older and younger siblings were found in their reports of negative conflict actions. Younger siblings took a direct approach by denying their own negative actions more often than those of their siblings, and selectively excluding their own negative actions

Children’s Self-Serving Biases
from their narratives. Older siblings were less direct. They spontaneously justified rather than denied the harm they did to their siblings. Evidence that younger siblings deny and older siblings justify their wrongdoing replicates a similar finding by Wilson et al. (2004). Despite owning up to their negative behaviors when questioned, older siblings, like their younger counterparts, selectively omitted their negative conflict actions from their narratives. Additionally, both groups of children explained their own rather than their siblings' negative actions as resulting from situational factors. Thus, whereas internal sources motivated their own good actions more than those of their siblings, uncontrollable, external circumstances explained their own negative conflict actions more often than those of their brothers and sisters. Finally, errors of commission were limited to reports of positive behavior. Neither child was likely to affirm or include in their narratives negative actions that the sibling had not taken. Thus, children's self-serving biases did not extend to enhancing the self by lying about the wrongdoings of their brothers and sisters. The children's tendencies to emphasize actual rather than invented wrongdoings of others in their narratives is in line with findings on children's tattling, where children report overwhelmingly on true rather than on falsified transgressions of their siblings (Ross & den Bak-Lammers. 1998).

**Deception, Memory, and Impression Management**

We also explored the roles of memory versus self-presentational processes in explaining children's self-serving biases. Our findings are consistent with the view that children's reporting is influenced by their desire to present themselves in a relatively positive light to the adult interviewers. Perhaps the most important difference between true and false affirmations and denials was in the time that it took for children to respond to the closed-ended questions about what they or their siblings had done. When children's responses were accurate, they took less time to respond than when their reports did not correspond to what parents had told us about the events. We had reasoned that if biased reports resulted from biased information coded in the children's memories of past events, then there should be no differences in the time it takes to respond either accurately or inaccurately to our questions. In contrast, if the children also had to consider the impact of their responses and to decide whether it was in their interest to shade the truth as they remembered it, then inaccurate accounts should take longer to produce than accurate ones; this was our finding for both older and younger siblings, suggesting that children were deliberately managing what they would reveal to the interviewer. Although no comparable data on children
exist, this finding is consistent with reports of adult deception (De Paulo, 1994) and in contrast to the lack of latency effects found for accurate and inaccurate adult recognition memory (Loftus et al., 1989).

Additionally, even when children said an action took place, they were less likely to integrate it into their narrative accounts if it hadn't occurred than if it had. Moreover, when actions were denied, older siblings were less likely to exclude them from their narratives if they had than if they had not occurred. Thus, the children did not maintain a totally consistent account of their past conflicts, and the inconsistencies tended to reveal what had actually taken place. This mirrors the findings of Polak and Harris (1999) and of Talwar and Lee (2002) that young children betrayed their own guilt by correctly identifying the object that they claimed not to have peeked at. We extend the earlier findings that relate only to children's betraying false denials to situations in which false affirmations are also revealed. Finally, children tended to resort to fairly general dispositional explanations of falsely attributed actions of either self or other; when the children had, in fact, taken the actions in question, explanations focused more often on the specifics of the dispute. Dispositional explanations further reveal the lack of integration of falsely claimed actions into the ongoing representation of the event held in memory.

In our instructions to the children, we attempted to guard against potential fears that any concrete consequences would result from their revealing negative information about their disputes. If the children took us at our word, then the most likely explanation of their biased reporting was that they were attempting to manage the impression that they made on the interviewers. We do not know how these findings would generalize to more intimate companions or caregivers such as parents, peers, or others who might either reward or punish them for their good or bad behavior. We also do not know how they would talk about these events to one another. Perhaps biases would be more extreme in such cases. However, it does appear that the opinions of relatively accepting and only slightly familiar interviewers whom the children would not expect to have any significant role in their lives did evoke biased reporting of past conflicts.

One alternative explanation bears consideration. It is possible that children's memories of the events were relatively faint, and influenced, at the time of recall, by uncertainty over the occurrence of highly plausible actions of self or sibling. When such actions were suggested by the interviewers' questions, children might have taken more time to resolve their uncertainty and made more errors in their judgments (Howe, 1998; Loftus et al., 1989). We would have to further assume a genuine belief, on the part of the children, that they were likely to do
good things in conflict and unlikely to harm their siblings. This potential explanation is weakened, however, by its inability to explain some of our additional findings. First, because they were discussing past conflicts, negative actions that did not happen should have seemed more plausible than positive actions and hence more likely to be included in children's reports; however, these were not often falsely attributed to either self or sibling. Second, this memory uncertainty account does not work as well for false denials as for false affirmations, because denials did not depend upon the differential plausibility of events that, after all, did take place. Third, this account does not explain the additional findings that the children did not integrate affirmed false positive events in their narratives or explain them in terms of the action in the conflict itself. The essence of gist memory is the meaningful interpretation of events and their integration with other knowledge (Brainerd & Reyna, 1998; Greenhoot, 2000), and thus children should have been able to integrate their false affirmations with other conflict elements if they remembered these actions as having taken place.

Limitations and Conclusions

A limitation of this study was that we relied on the children's parents for delineating what had and had not occurred during their conflicts. We would not like to regard parents as general arbiters of truth, because parents also have their own perspectives on the children's disputes (Ross et al., 1999). In this case, however, we do have confidence that parents provided reports that were sufficient to establish, reasonably accurately, what did and did not occur in the children's disputes. We selected those disputes that parents witnessed firsthand, asked parents before the events to observe and report specifically on actions that did or did not occur, collected parent reports generally on the day of the event, asked parents to verify their original judgments as they heard their children's versions, and eliminated from analysis any actions on which parents expressed doubts. Our findings also contribute to the confidence that we have in the parents' reports, because children's accounts corresponded fairly well with what their parents had told us, divergences from parents' accounts were systematically biased in each child's favor rather than random, and children took longer to respond to items that parents had told us did not occur. If parents' reports were not largely accurate, then significant results of the type that we found should not have been possible; any existing inaccuracies in the parents' reports would have acted against our obtaining significant results. Though it might have been better to base our interviews on researchers'
observations (with established reliability) of what did or did not occur, it was important to examine children's accounts of significant and salient sibling conflicts so that the children would recognize the event to which we referred in our questioning. It would have been very difficult to conduct observations for the length of time required to obtain observers' reports of such sibling disputes in each family.

Our findings do not rule out the possibility that the children's memories of past conflicts are also biased. Indeed, our study did not provide a strong or direct test of bias in children's conflict memories per se. We reasoned only that a lack of difference in children's true and false responses would be more consistent with a view that biased representations were contained in children's memories. It remains a possibility that both memory processes and self-presentational concerns contributed to the biases that children revealed in their conflict interviews. In addition, we have not conclusively examined gender differences in the current study. To do so would require larger samples, and we leave this task to further research.

In summary, this study replicates previous findings of bias in children's reports of past disputes, and, like Wilson et al. (2004), we can verify that bias applies to representations of the same events (as opposed to the selection of different events to report). We have shown that bias in the children's interviews results from omitting, denying, or justifying own past wrongs; being more likely to include the siblings' harmful actions in narratives of past conflicts; and both affirming and including in narratives past positive actions of the self that did not occur. Younger siblings focus more on simply denying and excluding own past negatives, whereas older siblings show relatively greater variety and sophistication in the ways in which they shade the truth. Finally, when children do diverge from truthful reporting, they appear to be motivated by a desire to create a favorable impression with relatively neutral interviewers.

References


