Children’s Interpretations of Ambiguous Provocation From Their Siblings: Comparisons With Peers and Links to Relationship Quality

Holly E. Recchia, Amandeep Rajput and Stephanie Peccia, Concordia University

Abstract

This study investigated how six- to eight-year-old children interpret ambiguous provocation from their siblings. In particular, we examined how children’s attributions of their siblings’ intent (1) differed from those for their peers, (2) varied as a function of the structural features of the sibling relationship, and (3) were associated with the affective qualities of the sibling relationship. A total of 121 children were presented with ambiguous provocation scenarios in which three groups of agemates were described as the perpetrators of harm (siblings, friends, and disliked peers). Scenarios were designed to assess children’s attributions of hostile, instrumental, and accidental intent. Children attributed more hostile intent to disliked peers than to siblings and less hostile intent to friends than to siblings. Accidental and instrumental intent attributions were equally likely for friends and siblings but less common for disliked peers. Children attributed more hostile intent to older siblings, and more instrumental intent to laterborn siblings who were chronologically younger. Children’s attributions of siblings’ intent were related to both parents’ and children’s reports of the affective features of siblings’ interactions. Results provide new insight into how children’s construals of others’ actions are grounded in the unique features of their relationships with particular interaction partners.

Keywords: attribution; conflict; siblings; peers/peer relations; social cognition

Introduction

Sibling relationships vary widely in quality, ranging from very harmonious to quite hostile (Howe, Ross, & Recchia, 2011). These individual differences in relationship quality have implications for development in a variety of domains, including social-cognitive skills and social competence with peers (Brody, 1998; Völling, 2003). In terms of consequences for sibling interactions, low-quality relationships have been linked to sibling aggression and violence. These destructive forms of conflict can
persist even into adulthood and have been linked to a host of deleterious outcomes, including depression, anxiety, and behavioral problems such as delinquency (Stocker, Burwell, & Briggs, 2002). As such, it is integral to identify the mechanisms that may explain this variability in the affective features of sibling interactions.

To date, research on young siblings’ interaction patterns has often focused on overt behavior, for instance, by examining children’s actions in conflict (Perlman, Ross, & Garfinkel, 2009) or prosocial contexts (White, Ensor, Marks, Jacobs, & Hughes, 2014), or by asking children or their parents to describe siblings’ typical behaviors (e.g., Ross, Woody, Smith, & Lollis, 2000). In contrast, the social-cognitive processes underlying these patterns of interaction are less understood. The same objective behavior can be construed in various ways, and a body of research based on social-information processing (SIP) theory suggests that children’s interpretations of others’ actions partially account for their social behaviors (Crick & Dodge, 1994). In particular, children’s attributions of hostile intent when faced with ambiguous provocation from peers have been consistently linked to individual differences in aggression (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2000). Nevertheless, these social-cognitive processes have yet to be adequately explored in the context of research on sibling relationships. As elaborated below, sibling relationships are characterized by a number of features that differentiate them from peers. Therefore, the current study adapted peer measures of ambiguous provocation for use with siblings. Our goals were to (1) examine unique patterns in children’s attributions of siblings’ intent, by comparing them with children’s attributions for friends and disliked peers, (2) explore how children’s attributions of siblings’ intent were related to structural features of the relationship (e.g., birth order, age gap), and (3) examine whether children’s attributions of intent were related to the affective tone of their sibling interactions.

Unique Qualities of Sibling Relationships

Children’s sibling relationships are unique in various ways, each of which has implications for the qualities of children’s sibling interactions. First, unlike peers, siblings share a long, intimate history of interactions in the family; especially early in life, children spend more free time with their siblings than with anyone else (McHale & Crouter, 1996). Thus, children may be more familiar with their sibling’s habitual behaviors, preferences, and motivations than those of their peers, although they may use this knowledge in both constructive and destructive ways (Recchia & Howe, 2009).

Second, sibling relationships are involuntary and interminable; unlike friends, children do not choose their siblings and conflict between siblings does not pose a risk of ending the relationship. Perhaps it is partly for this reason that friendships are of more uniformly high quality than sibling relationships, and conflicts between friends are generally resolved more constructively than between siblings (Buhrmester, 1992; Laursen, Finkelstein, & Townsend Betts, 2001). In contrast, children are more hostile and aggressive with disliked peers than with friends (Peets, Hodges, Kikas, & Salmivalli, 2007). Thus, because sibling relationship quality varies widely, some siblings may resemble friends whereas others may more closely resemble disliked peers. Furthermore, interactions within many sibling dyads are characterized by high levels of both positive and negative affect, underscoring the emotional intensity and ambivalence of this relationship (McGuire, McHale, & Updegraff, 1996; Volling, 2003).
The hierarchical qualities of sibling relationships also differentiate them from interactions between peers. Specifically, relationships between same-aged peers are more egalitarian, in that children have relatively equal power during interactions. In contrast, although siblings are close in age, one child in the dyad is older and more developmentally advanced than the other. Thus, especially when children are young, older siblings exert more control over interactions with their younger counterparts due to their greater physical strength and cognitive sophistication. For example, when sibling conflicts end in the submission of one child, older siblings typically emerge as the winners (Perlman, Siddiqui, Ram, & Ross, 2000). That being said, the magnitude of the difference between older and younger siblings’ roles also varies as a function of the age gap between siblings. For instance, sibling conflict is more frequent when siblings are closer in age, suggesting greater reciprocity in the relationship (e.g., Furman & Buhrmester, 1985).

Taken together, these distinct features of sibling relationships imply that insights gleaned from research on peers may not immediately translate to interactions between siblings. Nevertheless, to frame the current investigation, we review past work on children’s interpretive processes with their peers and also describe the handful of studies that have begun to investigate these issues among siblings.

**Children’s Interpretive Processes in Peer and Sibling Conflict**

SIP theory provides a useful conceptual framework for this study. In brief, this theory aims to identify features of children’s online social-cognitive processing that explain differences in their social behavior (Crick & Dodge, 1994). Although the model includes six steps, the first two (encoding and interpretation of social cues) are most relevant to our investigation. Specifically, when faced with a social cue, children must establish what happened (i.e., attention to and encoding of information) and why it happened (i.e., causal attributions, including of intent). Most commonly, these interpretive processes are measured by using hypothetical vignettes in which children are presented with an ambiguous provocation (e.g., someone bumps you and your lunch tray spills on the floor) and then are asked to explain why the behavior occurred (i.e., why did he/she bump you?). Research using this type of methodology has demonstrated that children who make more hostile attributions of others’ intent are also more likely to be aggressive, especially in response to perceived provocation by others (Dodge & Coie, 1987; Orobio de Castro et al., 2000).

Most studies following from a SIP framework are designed to explain stable individual differences between children (i.e., via comparison of aggressive and non-aggressive children). However, although some children are consistently more likely to make hostile attributions of intent, these interpretive processes also vary across peer relationships (i.e., friends vs. disliked peers), and these differences are related to variability in conflict behaviors with different interaction partners (Peets et al., 2007; Peets, Hodges, & Salmivalli, 2008). These findings are consistent with theoretical work by Lemerise and Arsenio (2000), suggesting that the emotional valence of children’s relationships is closely linked to the manner in which children interpret social cues from particular others. Although comparisons with siblings have not been made, these findings suggest that children may show distinct patterns of intent attribution with their siblings compared with friends and disliked peers and also that attributions of intent may be associated with individual differences in the affective qualities of children’s sibling interactions.
To our knowledge, no studies have directly examined children’s attributions of sibling intent, or how they are related to individual differences in sibling relationships. However, research on siblings’ attributions of culpability implies that interpretive processes may be linked to children’s sibling interactions and thus provides indirect evidence that the SIP model might be fruitfully used to further our understanding of sibling relationship dynamics. For example, Recchia and Howe (2010) revealed that when children solely blamed their sibling for starting a fight and believed that they were angrier than their sibling, they were less likely to resolve the conflict constructively. Nevertheless, these findings do not address how interpretive processes are related to broader affective features of children’s sibling relationships. Furthermore, given that these findings are based on children’s descriptions of actual rather than hypothetical conflicts, interpretive processes are confounded with variability in the realities of children’s sibling interactions. In some conflicts, children may have blamed their sibling due to a hostile interpretation of an ambiguous behavior. Indeed, when two siblings are asked to describe the same conflict, they often both perceive the other as responsible for the conflict (Wilson, Smith, Ross, & Ross, 2004); these patterns strongly suggest that interpretation is playing a role in children’s experiences of conflict. In other conflicts, however, children may have blamed their sibling for starting a fight and expressed a sense of anger because their sibling transgressed against them in an unambiguously ruthless or hostile way (see Recchia, Wainryb, & Pasupathi, 2013). Thus, in studies of children’s actual sibling conflicts, natural variability in the particular features of children’s disputes makes it difficult to isolate the unique effects of interpretive processes. To overcome this ambiguity, the current study capitalized on SIP methodology based on hypothetical scenarios. By presenting all children with the same objective conflict information, any differences in attributions of intent could thus be explained by their interpretations of inherently ambiguous behavior.

In considering the use of ambiguous provocation scenarios for use with siblings, the sibling literature also suggested that some modifications might be required to increase the validity of the methodology in the context of this relationship. Research on attributions of peers’ ambiguous intent has been largely focused on the hostile/accidental distinction. However, studies examining conflict between siblings report that many disputes originate from sharing resources/property (Howe et al., 2011). This type of conflict might often arise from behavior that is intentional (i.e., non-accidental) but not necessarily malicious. For example, consider a situation in which a child is watching a television program and leaves to get a snack; upon her return, she discovers that her brother has changed the channel. Plausibly, her brother may have had hostile intent (i.e., to purposefully interfere with her activity) but may also simply have wanted to watch a different program. In the latter case, the harm is an unfortunate but unintended side effect of his goal-directed behavior (Wainryb, Brehl, & Matwin, 2005), and is thus not appropriately characterized as hostile or accidental. Thus, to capture interpretive distinctions that may be particularly meaningful in the context of the sibling relationships, our study included scenarios that not only differentiated between attributions of hostile and accidental intent, but also a new set of scenarios that aimed to differentiate between hostile and instrumental intent. This also allowed us to examine which type of distinction (hostile/accidental or hostile/instrumental) was more closely related to individual differences in sibling relationship quality.
The Current Study

In sum, the purpose of this study was to examine six- to eight-year-old children’s attributions of their siblings’ intent in response to hypothetical ambiguous provocations. This developmental period was chosen because children have made the transition to school and thus have established important relationships with peers outside of the family, but siblings remain an important source of both intimacy and conflict (Buhrmester & Furman, 1990). Furthermore, because the power differential between older and younger siblings decreases with age (East, 2009), we elected to focus on early school-aged children to illuminate the effects of birth order during a period when it is a salient feature of sibling relationships.

Our first goal was to identify unique patterns of intent attribution among siblings. To do so, we compared attributions of siblings’ intent to those for two groups of classmates: friends and disliked peers. Although children attribute more hostile intent to disliked peers than to friends (Peets et al., 2007, 2008), the typical pattern of responses for siblings remains unknown. In some respects, siblings may be more similar to friends than to disliked peers in the sense that children have a more frequent and intimate interaction history with these two partners than with disliked peers. Thus, children may be more likely to identify plausible but benign explanations for ambiguous provocations in these two relationships as compared with disliked classmates with whom they share less time. On the other hand, inasmuch as sibling conflicts are often aggressive and emotionally intense, these historical features of sibling interactions may result in attributions of siblings’ intent that are more similar to those for disliked peers than friends.

Second, we assessed how structural features of the sibling relationship (i.e., birth order, age gap, and dyadic gender constellation) related to attributions of siblings’ intent. Our sample of six- to eight-year-olds was equally divided into groups of children with older and younger siblings. Thus, we were able to examine the effects of birth order in a way that did not confound chronological age and birth order status. Analyses of structural variables were largely exploratory, given the paucity of research in this area. For instance, with respect to age gap, a wider age gap between siblings is linked to lower levels of both conflict and intimacy (Buhrmester & Furman, 1990), making it unclear whether age spacing would be positively or negatively related to attributions of hostile intent. Similarly, research on links between sibling gender and conflict processes reveals inconsistent findings (e.g., see Recchia & Howe, 2010).

Third, we examined how children’s attributions of sibling intent were related to their own and their parents’ reports of the affective tone of their interactions. Based on theory (Lemerise & Arsenio, 2000) and research with peers (Peets et al., 2007, 2008), we expected more positive and less negative sibling interactions to be related to children’s tendency to ascribe fewer hostile intentions to their siblings. However, we also aimed to build on previous studies by examining whether the hostile/accidental or hostile/instrumental distinction was more relevant to identifying individual differences in sibling relationship quality.

Method

Recruitment and Participants

The sample consisted of a total of 121 children, recruited from grade 1 and 2 classes at schools in an urban Canadian community ($M$ age = 7.47 years, $SD = .62$). Parents
provided written informed consent for their children, and children verbally assented to all procedures. To participate, children needed to have at least one sibling with a mean age gap between children of 4.5 years or less; \( M \) age difference = 2.60 years, \( SD = .88 \). This requirement ensured that children would not be reporting on preverbal younger siblings. When children had multiple siblings (40 percent of the sample), they were asked to report on the sibling who was closest in age to them. Approximately half of the participating children reported on a younger sibling (\( n = 60 \)) and half on an older sibling (\( n = 61 \)). The sample included 73 boys (39 in same-sex sibling dyads) and 48 girls (24 in same-sex dyads).

Mothers’ and fathers’ average ages were 38.33 and 40.87 years, respectively, and 82 percent of parents were born in Canada. Consistent with the demographics of the sampled neighborhoods, most families were of European-Canadian heritage (e.g., Italian, French Canadian). Parents’ educational backgrounds ranged from some high school or high school completion (17 percent of mothers; 38 percent of fathers) to postgraduate degrees (16 percent of mothers; 19 percent of fathers).

**Procedure**

Data for this study were drawn from a larger investigation of children’s conflicts in different relationships; only procedures relevant to the current study are described here. Individual private interviews were conducted at children’s schools (e.g., in a resource room). After assenting to procedures, children were asked to nominate a friend and a disliked peer from among their classmates, using scripts adapted from Peets et al. (2007). Specifically, children were asked to identify friends based on status (‘you think of them as your best friend’), liking (‘you like them’), and companionship (‘you have fun with them’, ‘play with them’). Disliked peers were identified based on lack of liking (‘you don’t really like them’), lack of companionship (‘you don’t spend time with them’), and conflict (‘you don’t get along with them’, ‘you fight with them’). If children could not identify a disliked peer or friend in their class, they were invited to choose a peer outside of their class. Nevertheless, three children did not identify a disliked peer (2.5 percent of the sample) and thus were excluded from analyses comparing sibling and peer relationships. Subsequently, children were presented with a series of ambiguous provocation scenarios to assess their attributions of others’ intent across relationships (i.e., sibling, friend, and disliked peer). Finally, children provided a report of the affective qualities of their interactions with siblings. Interviews were audiotaped and responses were transcribed verbatim for analysis. Children received a small gift (a pencil and eraser) in appreciation for their participation.

Following their child’s participation, parents were mailed a questionnaire package including measures of family demographics and the qualities of their children’s sibling interactions. A total of 116 families provided this information (i.e., 96 percent of the sample). Parents received $15 in appreciation for their time spent completing and returning the questionnaires.

**Measures and Coding**

*Ambiguous Provocation Vignettes.* Hypothetical ambiguous provocation scenarios were adapted from the social-cognitive assessment profile (Hughes, Meehan, & Cavell, 2004). Due to our focus on siblings, we made two modifications to increase the ecological validity of the measure for this relationship. First, because sibling conflicts
most often arise in the context of competition for shared resources or property disputes (Howe et al., 2011), all vignettes focused on property-related issues. Second, in addition to presenting children with scenarios designed to differentiate between attributions of hostile and accidental intent, we also developed scenarios that differentiated between hostile and instrumental intent (see Appendix). A larger set of scenarios was pilot tested to ensure that intent was indeed ambiguous in each case; the final set of six scenarios was selected on this basis (i.e., children varied in the attributions they made in response to the vignette). For each relationship, children were presented one scenario of each type. We counterbalanced both the order of relationships (e.g., scenarios about friends, followed by siblings, followed by disliked peers) and the assignment of scenarios to relationship (i.e., whether ‘A’ scenarios were assigned to siblings, friends, or disliked peers). Each vignette was accompanied by two illustrations as visual aids; the drawings were carefully constructed to avoid providing information about perpetrator’s intent or the victim’s reaction to harm (e.g., facial expressions).

Following the presentation of each scenario, participants were asked a series of questions to assess their attributions of the perpetrator’s intent (e.g., following the first vignette: “Why did Frank ride his bike through the puddle? What did Frank want? What was Frank thinking?”). As expected, children frequently provided attributions of hostile intent (harm resulting from malicious or antisocial goals; e.g., ‘he was trying to be mean’), instrumental (harm resulting from self-oriented but non-malicious goals; e.g., ‘he wanted to clean up the markers’), and accidental intent (unintentional behavior; e.g., ‘he didn’t see the puddle’). However, they also occasionally attributed benevolent (harm resulting from other-oriented goals; e.g., ‘he was trying to help me’) or Machiavellian types of intent. Machiavellian intent referred to instances in which the perpetrator was understood to be using hostile means to achieve a more benign instrumental goal (e.g., ‘he splashed me with mud so I would notice him and play with him’). As children could provide multiple responses for the same scenario, the presence/absence of each intent type was coded for each vignette. Interrater reliability was established between two independent coders (one blind to hypotheses) on 20 percent of the data; Cohen’s kappas for individual codes ranged from .76 to 1.0. Disagreements were resolved via discussion and consensus.

Although the goal of this study was to differentiate between relationship and scenario types, given the novelty of the measure, we examined whether children’s responses across different vignettes were internally consistent. Overall, across the six vignettes, children were somewhat consistent in their tendency to make hostile attributions (Cronbach’s alpha = .73).

Child and Parent Reports of Affective Qualities of the Sibling Relationship

Children and their parents completed the same measure of the affective quality of children’s sibling interactions (adapted from Ross et al., 2000). The questionnaire consisted of 10 items assessing positive (e.g., from the child report: You and Frank share with each other) and negative (e.g., from the parent report: Sally and Frank are mean to each other) features of the sibling relationship. Responses were provided on a 4-point Likert scale ranging from not at all (1) to a lot (4). Children provided their responses verbally with the assistance of visual aids (i.e., graduated circles), and parents responded in writing. Negative items were reverse scored, and the items were averaged to produce overall scores for the positive qualities of siblings’ interactions. Internal consistency was high for both child and parent reports (both Cronbach’s
alphas = .92). Although scores on this measure are typically calculated to capture overall relationship quality, in an effort to examine whether distinct patterns of association emerged with different facets of affective quality, positive (eight items; alphas = .92 and .93 for child and parent, respectively) and negative (two items; alphas = .82 and .63, respectively) subscale scores were also computed.

Results

Statistical significance was assessed using two-tailed tests. For each significant omnibus effect, effect size is reported as partial eta-squared ($\eta^2$). When sphericity assumptions were violated, degrees of freedom were adjusted using the Greenhouse–Geisser correction. Bonferroni corrections (with a familywise alpha level of $p < .05$ for each analysis) were used for all post hoc tests. Preliminary analyses failed to reveal any significant associations between participants’ chronological ages and attributions of intent; thus, chronological age was not examined further.

How Do Attributions of Intent Vary Across Relationships?

For ease of interpretation, children’s references to hostile, instrumental, accidental, benevolent, and Machiavellian intent were expressed in terms of their proportionate use within each relationship (range = 0–1.0). As noted above, these scores did not necessarily sum to 1.0 across the five categories because children could refer to multiple types of intent for one scenario.

To examine differences between relationships, we conducted a 3 (relationship: disliked peer, friend, sibling) $\times$ 2 (child gender: girl, boy) multivariate analysis of variance (ANOVA) with the five types of intent as dependent variables. This analysis revealed only a multivariate effect of relationship, Wilk’s $\lambda = .45$, $\eta^2 = .55$. Follow-up ANOVAs revealed significant univariate effects for hostile, instrumental, accidental, and benevolent attributions of intent. As reported in Table 1, children attributed hostile intent most often to disliked peers and least often to friends (all pairwise differences were statistically significant). In contrast, children attributed less instrumental and accidental intent to disliked peers than to friends and siblings; in both cases, the difference between friends and siblings was not significant. Finally, children attributed benevolent intent more frequently to friends than to disliked peers; siblings were not significantly different from either group of peers. Due to the low frequencies of benevolent and Machiavellian attributions, subsequent analyses focused only on attributions of hostile, instrumental, and accidental intent.

How Are Attributions of Intent Related to Structural Features of Sibling Relationships?

In addition to examining how attributions of intent varied across relationships, we also examined how attributions of sibling intent varied between children, as a function of the structural qualities of their sibling relationships. Specifically, we examined links with birth order, dyadic gender constellation, and age gap.

To examine birth order effects, we conducted a one-way multivariate ANOVA with birth order as the independent variable and the three types of intent attributions
(hostile, instrumental, accidental) as dependent variables. The analysis revealed a marginal multivariate effect of birth order, Wilk’s $\lambda = .94$, $\eta^2 = .06$. Follow-up ANOVAs revealed a significant effect of birth order on hostile attributions, $F(1, 119) = 6.34$, $\eta^2 = .05$. Specifically, children were more likely to attribute hostile intent to older siblings ($M = .40$, SE $=.05$) than to younger siblings ($M = .22$, SE $=.05$).

Similarly, we examined the effects of dyadic gender constellation via a 2 (child gender) $\times$ 2 (sibling gender) multivariate ANOVA with the three types of intent attributions as dependent variables. The analysis failed to reveal any significant multivariate effects.

Finally, we examined the effects of age gap via a series of regression analyses. Arguably, the effects of age gap may have a different meaning depending on whether children are reporting on an older or younger sibling. Thus, in the first step of each regression, standardized absolute values for age gap (i.e., age gap was expressed as a deviation from 0, with no distinction between negative and positive values, and subsequently converted to a z-score) were entered along with a dichotomous variable for birth order; in the second step, we entered the multiplicative product of age gap and birth order. There were no significant unique or interactive effects of age gap for hostile or accidental attributions. In contrast, the analysis revealed an interaction between age gap and birth order in the prediction of instrumental attributions, $R^2$ change $=.04$, $p < .05$, $\beta$ for interaction term $=.20$, $p < .05$. Follow-up correlations revealed that for children with older siblings, there was a non-significant negative association between age gap and instrumental attributions, $r = -.19$, $ns$. In contrast, for children with younger siblings, there was a marginal positive association between age gap and instrumental attributions, $r = .22$, $p < .10$. In other words, children were more likely to make attributions of instrumental intent when their laterborn siblings were chronologically younger.

### Table 1. Children’s Attributions of Intent to Disliked Peers, Friends, and Siblings

<table>
<thead>
<tr>
<th></th>
<th>Disliked peer $M$ proportion (SE)</th>
<th>Friend $M$ proportion (SE)</th>
<th>Sibling $M$ proportion (SE)</th>
<th>Univariate effect of relationship type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostile intent</td>
<td>.60 (.04)$^a$</td>
<td>.18 (.03)$^b$</td>
<td>.31 (.04)$^c$</td>
<td>$F(2, 228) = 50.03$, $\eta^2 = .31$***</td>
</tr>
<tr>
<td>Instrumental intent</td>
<td>.28 (.03)$^a$</td>
<td>.41 (.02)$^b$</td>
<td>.39 (.02)$^b$</td>
<td>$F(2, 228) = 12.98$, $\eta^2 = .10$***</td>
</tr>
<tr>
<td>Accidental intent</td>
<td>.21 (.02)$^a$</td>
<td>.39 (.02)$^b$</td>
<td>.39 (.02)$^b$</td>
<td>$F(2, 228) = 27.38$, $\eta^2 = .19$***</td>
</tr>
<tr>
<td>Benevolent intent</td>
<td>.00 (.00)$^a$</td>
<td>.03 (.01)$^b$</td>
<td>.01 (.01)</td>
<td>$F(1.47, 167.06) = 4.47$, $\eta^2 = .04$*</td>
</tr>
<tr>
<td>Machiavellian intent</td>
<td>.03 (.01)</td>
<td>.06 (.02)</td>
<td>.04 (.02)</td>
<td>$F(1.81, 206.03) = .70$, $\eta^2 = .01$</td>
</tr>
</tbody>
</table>

*Note: Means are expressed as proportions of the total possible number of responses for each relationship. Dissimilar alphabetic superscripts denote significant differences between pairs of means in the same row ($p < .05$ with Bonferroni correction).

*** $p < .001$, * $p < .05$.\[9.98658912484526\]

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How Are Attributions of Intent Related to the Affective Features of Siblings’ Interactions?

Parents’ and children’s overall reports of the affective qualities of children’s relationships were only moderately correlated ($r = .45$, $p < .05$); thus, correlations were computed separately by rater (see Table 2). As noted above, age gap and birth order were related to siblings’ attributions of intent; thus, these variables were controlled in our analyses of the associations between intent attributions and affective features of sibling relationships. Analyses revealed that parent reports of the overall positive affective qualities of children’s sibling relationships were negatively related to children’s tendency to attribute hostile intent to their sibling whereas they were positively related to children’s attributions of instrumental and accidental intent. Similarly, children’s reports of overall sibling interaction quality were negatively related to their own attributions of hostile intent and positively related to their attributions of instrumental intent. However, the association between children’s reports of sibling interaction quality and accidental attributions of sibling intent was not significant. When associations were computed separately for positive and negative relationship quality subscales, findings revealed that only instrumental attributions were significantly linked to indices of negativity in the sibling relationship, such that fewer instrumental attributions were linked to reports of more negative sibling interaction quality; this was the case for both child and parent reports (see Table 2).

Discussion

This study aimed to adapt well-validated measures of children’s construals of their peers’ ambiguous intent to further our understanding of interpretive processes among siblings. The findings revealed new information about how children’s interpretations of their siblings’ intent are distinct from their attributions for peers, as well as how they vary as a function of the structural features of sibling relationships. Furthermore, associations were evident between children’s attributions of intent and the affective features of their sibling relationships. Together, these results suggest that interpretive
processes are linked in meaningful ways to the dynamics of sibling interaction. Each of these sets of findings is discussed in turn.

Illuminating Distinctions Between Attributions of Intent in Peer and Sibling Relationships

Peets et al. (2007; 2008) demonstrated that children are more likely to attribute hostile (rather than accidental) intent to their disliked peers than to their friends. The current study replicates these results but also extends them in a number of ways. Notably, our study is the first to document how children’s intent attributions vary across sibling and peer relationships. Our findings revealed that children were more likely to ascribe hostile intent to their siblings than to their friends, but less likely to ascribe hostile intent to siblings than to disliked peers. In contrast, benevolent intent was most commonly ascribed to friends and least often to disliked peers. These findings are consistent with theory suggesting connections between SIP and the affective features of children’s relationships (Lemerise & Arsenio, 2000). In particular, given the ambivalent emotional tone that is characteristic of sibling relationships (Howe et al., 2011; Volling, 2003), it is perhaps not surprising that children’s tendency to attribute hostile intent to their siblings fell midway between the pattern of responses for friends and disliked peers. Other findings, however, suggested similarities between children’s interpretations for siblings and friends. Specifically, children were equally likely to ascribe benign intentions (i.e., accidental and instrumental) to their friends and siblings whereas they were less likely to do so for disliked peers. Although the overall positive tone of children’s friendships is widely acknowledged, this finding underscores that many sibling relationships also have salient positive dimensions (e.g., Howe et al., 2011; White et al., 2014). This pattern of findings could be explained by children’s more extensive history of interactions with friends and siblings, and thus greater familiarity with their repertoires of possible responses. Put another way, although children are likely to have more negative interactions with siblings and disliked peers than with friends, interactions with disliked peers may be more limited and uniformly negative whereas past interactions with siblings are more extensive and thus also more variable in affective quality (McGuire et al., 1996). In this respect, it would be interesting for future studies to examine whether both the duration and heterogeneity of children’s relationship histories are related in meaningful ways to their interpretations of others’ behavior. It would also be useful to examine whether the same patterns of attribution are also evident in response to other types of provocation, such as physical aggression or exclusion, that are often the focus of vignettes in peer research (Hughes et al., 2004); the current study focused exclusively on property disputes, which may be particularly valid in the context of the sibling relationship.

Our findings also extend the SIP literature by constructing vignettes that aimed to elucidate distinctions between hostile and instrumental attributions of intent, in addition to distinctions between hostile and accidental attributions. We argued that the former dichotomy might be particularly germane to understanding sibling relationship dynamics, given that sibling disputes are typically focused on issues of property or entitlement that pose conflicts between incompatible instrumental goals (e.g., playing with the same toy or sitting in the same desirable seat of the car; Howe et al., 2011). However, interestingly, children were also more likely to make instrumental (rather than hostile) attributions with friends as compared to disliked peers, suggesting that this distinction may also be meaningful in the context of peer relationships. Indeed,
when asked to describe experiences of being victimized by peers, Wainryb et al. (2005) found that although children occasionally ascribed malicious or accidental intent to their peers, they most commonly described their peers’ harmful actions as being incidental to the pursuit of instrumental goals. Thus, although it remains to be seen whether distinctions between instrumental and hostile intent are related to differences in children’s interactions with classmates, our results suggest that this may be a promising avenue for research on children’s peer relationships. In contrast, although our findings revealed a few scattered instances in which children ascribed benevolent (i.e., prosocial) or Machiavellian intent to others (i.e., a more cold-blooded form of instrumentality in which the harmful behavior was a means to an end), these types of responses were quite unusual, regardless of the relationship context.

Children’s Interpretations of Siblings’ Intent: Links to Relationship Features and Dynamics

In addition to examining how children’s attributions of intent for siblings differed from those for peers, we also investigated how sibling attributions were related to individual differences in the structural and affective features of this relationship. Research on sibling relationships has failed to reveal consistent conflict patterns as a function the gender composition of the dyad (see Recchia & Howe, 2010), and our findings also revealed no significant associations for gender. In contrast, we observed associations with both birth order and age gap that provide novel insight into how the power and role differentials between siblings are related to interpretive processes. Unlike research in which chronological age and birth order were confounded (e.g., Recchia & Howe, 2009), a particular strength of our study was that we examined birth order effects with chronological age of the participants held relatively constant (i.e., our sample consisted of six- to eight-year-old children who were interviewed about either an older or a younger sibling). As a consequence, observed differences could be attributed to role rather than developmental effects. Indeed, results revealed that children were more likely to attribute hostile intent to older siblings than younger siblings, which is in line with birth order differences in children’s typical roles and behaviors in sibling interaction. For instance, Martin and Ross (1995) found that four-year-olds interacting with a younger sibling were more likely to be aggressive whereas four-year-olds interacting with an older sibling were more likely to cry. More broadly speaking, older siblings may learn that coercive strategies are an effective way of getting what they want at the expense of less powerful younger siblings (Perlman et al., 2000). Thus, extending the literature on relationship differences among peers (Peets et al., 2007, 2008), children’s interpretations of older and younger siblings’ intent in ambiguous situations may be grounded in their histories of interaction with each relationship partner.

Our results also revealed that age gap was related to children’s tendency to ascribe instrumental attributions to their siblings, particularly among participants with younger brothers and sisters. Specifically, when age gap was larger, children were more likely to attribute instrumental intent to younger siblings. When children are closer in age, sibling relationships are relatively equitable whereas a large age gap is linked to older children’s tendency to take on more complementary and nurturant roles (e.g., teacher, caregiver; Furman & Buhrmester, 1985). Thus, it may be that older siblings are more generous in their interpretations of younger siblings’ behavior particularly when there is a substantial power differential between the children.
Finally, we examined how attributions of intent were linked to affective dimensions of sibling interactions. Results revealed similar patterns of association with parents’ and children’s reports of sibling relationship quality, providing evidence that observed associations were not simply due to shared method variance. Specifically, when parents reported that children’s overall sibling relationships were positive, children were more likely to attribute instrumental and accidental (rather than hostile) intent to their siblings. Similarly, children’s reports of overall sibling relationship quality were positively linked to instrumental attributions of intent and negatively related to hostile attributions of intent. These findings provided support for our hypothesis that the instrumental/hostile distinction would be meaningfully related to individual differences in the affective tone of sibling interactions, in addition to the accidental/hostile distinction. Indeed, for children’s reports, the former distinction was uniquely linked to individual differences in sibling relationship quality. Moreover, when positive and negative relationship dimensions were examined separately, instrumental attributions of intent were inversely related to both child- and parent-reported conflict/hostility in the sibling relationship whereas the other types of intent attributions were not significantly associated with negativity among siblings. Nevertheless, the causal mechanisms underlying these associations are not self-evident. Certainly, the affective tone of sibling interactions may color children’s interpretations of their siblings’ ambiguous behavior. However, it is equally likely that children who attribute more benign intentions to their sibling may, as a consequence, interact with their sibling in a more positive and less negative way. Most likely, both processes are at play, but future research should aim to disentangle these possible causal pathways.

Limitations and Conclusions

The purpose of this study was to identify the interpretive processes that characterize conflict interactions between siblings. In some ways, the results raise as many questions as they answer. For instance, although our findings revealed a link between birth order and children’s attributions of hypothetical intent, our data did not allow us to provide a precise explanation for this observed association. We speculated that children’s distinct interaction histories with their older and younger counterparts may account for this effect, but the inclusion of more specific measures of children’s conflict interaction patterns (including both observations and reports of specific conflict tactics) would have helped to disambiguate some of our findings. For instance, it would be useful to examine whether siblings’ aggressive conflict strategies (including distinctions between reactive and proactive forms of aggression) are linked in predictable ways to their SIP patterns. It is also important to extend our findings beyond property disputes, to examine how children attribute intent to siblings when faced with other types of provocations that may be unique in this relationship (e.g., when a child is engaging in dangerous behavior and sibling informs their parents, is this perceived as self-interested tattling or benevolent caretaking?) Finally, our findings were based on a community sample of European-American, well-functioning sibling dyads; their parents were also more educated than the national average. It remains to be seen how our results might generalize to different cultural groups, to children of parents with lower educational attainment, or to siblings with a history of coercive or violent interaction. Indeed, factors such as maternal age and education can influence structural features of sibling relationships such as age spacing (e.g., Yamaguchi.
Ferguson, 1995) and thus may have both direct and indirect links with sibling interaction quality.

Nevertheless, our findings provide new insight into how interpretive processes among siblings are unique from those among peers, as well as how they are linked to structural features of sibling relationships and the affective qualities of children’s sibling interactions. Previous research has implied that children’s construals of experiences may be linked to sibling conflict processes (Recchia & Howe, 2010). However, by adapting peer methodologies developed in the context of the SIP framework, the current study provides more direct information about interpretive patterns among siblings. Broadly speaking, the results underscore that children’s understandings of social experiences are fundamentally intertwined with the particular dimensions of their relationships with others. In this way, results also have implications for parents and practitioners, inasmuch as interventions should take account of children’s subjective experiences of conflict within their relationships.

References


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Appendix: Ambiguous Provocation Vignettes

‘A’ Scenarios

Hostile/Accidental Distinction:

(1) You are walking on the sidewalk after school, wearing your brand new shoes. There are mud puddles in the road. You see ____ riding by on his/her bike.
As ____ rides by you, he/she hits a puddle and mud splashes all over your shoes.

Hostile/Instrumental Distinction:

(1) You decide to clean up the art supplies, and you put all the markers and paints back neatly in their box. You leave to go play outside.
(2) When you come back, you see that ____ has taken all of the markers and paints out of the box and they are all over the room in a mess.

‘B’ Scenarios

Hostile/Accidental Distinction:

(1) You are playing in the sandbox, making a cool castle out of sand. You see ____ playing with a ball nearby. You finish building your castle.
(2) All of a sudden, ____’s ball hits your castle and destroys it.

Hostile/Instrumental Distinction:

(1) You are building a gigantic tower out of the blocks. You leave the room to go get a snack.
(2) When you come back, you see that ____ has taken apart your tower and put all the blocks back in their bag.

‘C’ Scenarios

Hostile/Accidental Distinction:

(1) You carve an awesome pumpkin for a Halloween pumpkin-carving contest at school. You put the pumpkin carefully in a bag to take to school. You see ____ running towards you.
(2) Suddenly, ____ bumps your bag, and your pumpkin falls and smashes on the ground.

Hostile/Instrumental Distinction:

(1) You are drawing a really nice picture of your family on the chalkboard. You leave the room to go get your mom/teacher to show her.
(2) When you come back, you see that ____ has erased your picture and drawn a picture of a dragon instead.