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Preschoolers’ Relational Aggression with Siblings and with Friends

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As part of a longitudinal study examining sibling and friend relationships in early and middle childhood, relational aggression by 4-year-olds and their interaction partners in semi-structured free play sessions with siblings and friends was examined during sibling sessions involving both same-gender and mixed-gender sibling pairs. Identifiable acts of relational aggression occurred during many of the interactions observed, but there was also a wide range in the amount of relational aggression produced. Both boys and girls used relational aggression with their siblings much more than they did with their friends. Although boys’ and girls’ relationally aggressive behaviors occurred at similar rates, the form and function of their relational aggression varied depending on the age and gender of their sibling.

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Preschoolers’ Relational Aggression with Siblings and with Friends

A growing body of research demonstrates that relational aggression is related to significant social-psychological adjustment difficulties for children, including peer rejection and both externalizing and internalizing difficulties (Crick, 1997; Crick & Grotpeter, 1995; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996; Rys & Bear, 1997; Werner & Crick, 1999). In addition, relational aggression uniquely predicts future social-psychological adjustment for girls beyond what can be accounted for by physical aggression alone (Crick, 1996). However, as yet relatively little is known about the normative development of children’s use of relational aggression, especially in early childhood. Information about when children begin to use relational aggression, with what partners and in what situations they use it, and how its use changes as they grow older would help guide the development of future interventions.

The existing research provides extensive evidence for how relational aggression is used in friendships and other peer situations in middle childhood and adolescence. In the last few years, researchers have turned their attention to peers’ use of relational aggression in early childhood (Crick, Casas, & Ku, 1999; Crick, Casas, & Mosher, 1997; Goldstein, Tisak, & Boxer, 2002; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Hawley, 2003; McEvoy, Estrem, Rodriguez, & Olson, 2003; Ostrov & Keating, 2004; Ostrov, Woods, Jansen, Casas, & Crick, 2004; Sebanc, 2003). Research detailing how preschoolers use relational aggression is essential to an understanding of normative development of relational aggression and could also shed light on early individual differences in children’s use of this form of aggression.

Although several researchers have examined preschoolers’ use of relational aggression in school-based peer observations (McNeilly-Choque et al., 1996; Ostrov & Keating, 2004; Ostrov et al., 2004), it has not yet been examined in preschoolers’ sibling relationships. In fact, only a few dissertations have addressed the unique context of the sibling relationship for relational aggression at all (Lockwood, 2002; O’Brien, 1999). Given existing evidence that social cognitive skills are often observable earlier in sibling interactions than in interactions with peers (e.g., Dunn & Dale, 1984), sibling relationships may be a particularly likely place to look for early relational aggression.

Several features of sibling relationships suggest that children are likely to use relational aggression in interactions with brothers and sisters. Siblings have a shared history and a higher level of intimacy than do friends (for a review see DeHart, 1999), making them privy to a wide range of information that can be used to hurt or embarrass each other. Siblings also share many highly valued relationships that are potentially vulnerable to attack, including relationships with parents, other relatives, friends, babysitters, and neighbors (O’Brien, 1999). Competition for attention from these influential people provides one reason siblings might try to use damage to these relationships to hurt each other. In addition, because sibling relationships cannot be terminated, they represent a reasonably safe context for children to experiment with new social behaviors, such as aggression, before trying them out with friends or other peers (e.g. Aguilar, O’Brien, August, Aoun, & Hektner, 2001; DeHart, 1999).

Studying sibling interactions may also provide a clearer understanding of the role of gender in the development and use of relational aggression. Although most researchers have found that girls engage in higher rates of relational aggression than do boys (e.g., McNeilly-
It is not yet clear what happens in mixed-gender pairs. Sibling relationships provide a particularly useful and ecologically valid opportunity to observe interaction in mixed-gender dyads. Sustained play with opposite-gender peers is uncommon for most children in early and middle childhood, but such play sessions occur on a regular basis between brothers and sisters.

Previous research on children’s use of relational aggression has focused mainly on same-gender peer relationships, but adolescent and adult work on relational aggression between romantic partners suggests that relational aggression does occur in male-female intimate relationships (Linder, Crick, & Collins, 2002; Pelligrini & Long, 2003). Research examining the development of relational aggression in mixed-gender relationships earlier in development is sparse, but recent studies have shed some light on this issue (Philipson, Deptula, & Cohen, 1999; Strough & Diriwaechter, 2000). In a study examining preadolescents’ use of relational aggression in jointly written prose, same- and mixed-gender dyads used relational aggression to a similar extent (Strough & Diriwaechter, 2000). Another study, based on peer nominations of relationally aggressive children, found higher use of relational aggression in mixed-gender pairs than in pairs of boys, but no difference between mixed-gender pairs and pairs of girls (Phillipsen, et al., 1999).

In two studies that specifically examined sibling relational aggression, O’Brien (1999) and Lockwood (2002) failed to find overall significant differences between mixed-gender and same-gender pairs in reports of their use of relational aggression. However, O’Brien did find significant gender differences when the specific age and gender composition of the dyad was examined; younger sisters were more likely than younger brothers to report using relational aggression toward older siblings, and older siblings were more likely to report using relational aggression toward younger sisters than toward younger brothers. Based on these findings, mixed-gender sibling pairs might be expected to engage in relational aggression at the same rate as same-gender sibling pairs, but the specific gender composition of dyads may make a difference.

The unique features of sibling relationships suggest that the frequency, form, and function of relational aggression should differ between sibling and friend contexts, especially in early childhood when sibling relationships are particularly central to children’s social worlds. Siblings clearly have more motives, opportunities, and means to exclude and humiliate each other than do friends, suggesting that one should anticipate higher rates of relational aggression in sibling than in friend interactions. Forms and functions of relational aggression can also be expected to reflect the differences in the nature of sibling and friend relationships. First, because siblings share a wider range of important adult-child relationships than friends do (e.g., relationships with parents, grandparents, aunts and uncles, babysitters, neighbors, adult friends of the family), siblings may be more likely than friends to use adult relationships when attacking each other. Based on this expectation, we examined which relationship preschoolers attacked through the aggression—the relationship with the current play partner, the relationship with an adult, such as a parent or researcher, or the relationship with a peer, such as a friend or similarly aged child.

Second, the sibling relationship is an involuntary, closed-field relationship; children do not choose their siblings, and in many ways the structure of the relationship is partially
determined for them by their family and culture (DeHart, 1999; Laursen, Hartup, & Koplas, 1996). Since sibling relationships cannot be terminated, siblings might feel free to be more vicious and hurtful with their siblings than with their friends, suggesting that they might have more hostile and fewer instrumental reasons for using relational aggression than they would with peers. Based on this expectation, the specific purpose of preschoolers’ relational aggression (i.e., hostile or instrumental) was also of interest.

Until recently, most studies have relied on questionnaires and peer or teacher nominations as sources of information on children’s use of and experience with relational aggression. Questionnaires and peer nominations are a convenient and efficient means of obtaining reliable estimates of children’s behavior and experiences, but they also address different aspects of children’s behavior than do observational methods (McEvoy et al., 2003) and have several limitations. For instance, questionnaire items provide limited response options, are often quite subjective, and may be affected by gender stereotypes. Teacher and peer nominations suffer from similar limitations and may be influenced by children’s reputations rather than the real frequency of behavior. In particular, preschoolers’ responses to these methods are often difficult to interpret because of young children’s difficulty recalling subtle or temporally remote behaviors.

Several researchers have observationally coded peer interactions for relational aggression (McEvoy et al., 2003; Nelson, Nelson, & Yang, 2003; Ostrov, et al., 2004; Ostrov & Keating, 2004), focusing primarily on the frequency of relationally aggressive behavior. As part of a longitudinal study examining sibling and friend interaction in early and middle childhood, we used observational coding to examine various aspects of form and function in preschoolers’ relational aggression toward siblings and friends. Our intent was to provide a detailed description of how young children use relational aggression with siblings and friends in semi-structured free play situations at home.

Our primary goals were to examine: (1) the frequency with which male and female preschoolers use relational aggression in interactions with siblings and with friends, (2) the forms relational aggression takes in young children’s sibling and friend interactions (i.e., verbal behaviors, physical behaviors, ignoring behaviors, and behaviors combining physical and verbal elements), (3) the functions relational aggression serves in preschoolers’ sibling and friend interactions (e.g., relationship attacked and purpose), and (4) how the gender composition of sibling pairs is related to the frequency and nature of children’s relationally aggressive behavior both inside and outside the sibling relationship. A secondary goal was to establish the viability of observational coding of the frequency, form, and function of relationally aggressive behaviors by preschoolers in semi-structured home-based free play situations.

Method

Participants

Sixty-three white families from small towns and suburban communities in western New York were recruited for participation in the study through fliers distributed to preschools, day care centers, and elementary schools, and through referrals from families already in the study. Families did not receive financial compensation, but they were offered copies of their children’s videotaped sessions, and each child received a small toy as a reward for
siblings and friends

participation. Thirty-three of the families included same-gender sibling pairs (17 brother pairs, 16 sister pairs) with a 4-year-old target child and a sibling who was either 15-30 months older ($N = 17$) or 15-30 months younger ($N = 16$) than the target. Thirty of the families included mixed-gender sibling pairs (14 older sister-younger brother pairs, 16 older brother-younger sister pairs) with a 4-year-old target child and a sibling who was either 15-30 months older ($N = 20$) or 15-30 months younger ($N = 10$) than the target.

Each family was asked to select a friend of the target child to participate in the study. They were told to choose a friend who was, in order of importance: (1) a frequent playmate of the target child, (2) the same age as the target child, and (3) the same gender as the target child. In cases in which parents had difficulty choosing a friend who met all three of these criteria, they were asked to select a friend of their child who met the first two criteria. In four cases (three boys with older sisters, one boy with a younger sister), an opposite-gender friend participated.

We collected questionnaire data from the target children’s mothers to provide an indication of the nature of the relationship between the target child and the friend included in the study. Mothers were asked to indicate: (1) in what settings the children spent time together, (2) how often the children saw each other; and (3) their perception of the children’s relationship. Twenty-five of the 63 dyads (39.7%) were reported to spend time together in school or day care. The mothers’ average rating for how often the children saw each other was 3.64 on a 5-point scale, where 1 = never, 3 = once a week, and 5 = every day; $SD = 1.00$. The average rating of the nature of the children’s relationship was 3.96 on a 5-point scale, where 1 = acquaintance, 3 = friend, and 5 = best friend; $SD = .81$. Although our procedure differs from common school-based sociometric approaches to identifying mutual friends, it does appear to have produced dyads that can reasonably be considered friends by preschoolers’ standards. In addition, it has the advantage of including friends not in the target children’s day care or preschool classes, which may be especially important in early childhood (Howes, 1996).

procedure

visits. Two to three trained undergraduate research assistants made four visits, approximately one per week, to each family’s home. During the first visit, the research assistants got acquainted with the parents and children, explained the study, collected parental consent forms, and obtained children’s verbal assent. The second and third visits were videotaping visits. At one taping visit, the siblings were videotaped playing together; at the other taping visit, the target child was videotaped playing with the friend. The order of sibling and friend taping visits was counterbalanced across all families. At the end of the friend taping visit, the target child, the sibling, and the friend were each allowed to select a small toy from a box of prizes.

At each taping visit, one research assistant set up the video camcorder and external microphone in plain view of the children, reminded the children that they were being videotaped, and asked the children to play on a large mat that was positioned to keep them within camera range. After turning on the camcorder, the research assistant left the room. While the children played in the living room or family room, research assistants sat with the target child’s mother in an adjacent room while the mother completed questionnaires about the target child’s sibling and friend relationships. Every five minutes during the taping session,
the research assistant who had set up the camcorder unobtrusively checked that it was still functioning and that the children were within camera range. During these checks, the research assistants did not initiate interaction with the children, but they did respond briefly if the children initiated interaction with them, redirecting their attention to the toy and their play partner. Other family members were asked to stay out of the room where the children were being taped, but occasionally a parent, a pet, or another sibling inadvertently walked through the room.

Research assistants and parents intervened in conflicts between the children only when children came in search of assistance or when parents judged that the conflict had escalated to a point at which they would normally intervene (e.g., screaming or crying). There were very few instances in which parents or researchers deemed the conflict to need adult intervention; in these cases, a parent or researcher spoke briefly to the children, provided suggestions for conflict resolution or comfort to crying children when needed, and redirected the children’s attention to the toys. If the situation could not be resolved through brief intervention, the camcorder was turned off until the children were resettled with the toys and ready to resume play; however, this was a rare occurrence. If either child expressed a desire at any time during the session to stop playing with the researcher-provided toys, the researcher encouraged him or her to continue but did not insist on it. The taping session was discontinued whenever either child refused to continue play. Dyads were videotaped for fifteen to twenty minutes, depending on estimated duration of time the children spent off camera. Some videotaping sessions were extended to compensate for time in which children spent more than a few minutes completely off camera (usually in an adjacent room) or in conversation with third parties (usually experimenter or parent).

During the fourth visit, at least one parent of the target child and sibling watched the videotapes of the play sessions and filled out questionnaires rating the typicality of the situation and the children’s behavior based on a 5-point scale, where 1 = not characteristic or typical, 3 = somewhat characteristic or typical, and 5 = very characteristic or typical. Parents’ mean typicality ratings of the target child’s behavior were 4.63 (SD = .5) for the sibling session and 4.55 (SD = .69) for the friend session. For the sibling’s and friend’s behavior, their mean typicality ratings were 4.47 (SD = .81) and 4.38 (SD = .81), respectively. There were no significant effects of age, gender, or partner. These typicality ratings suggest that children displayed minimal reactivity toward the cameras and experimenters and that there were no systematic differences in the ways in which children responded to the camera.

Materials and Task. During both taping sessions, the children played with sets of toys provided by the experimenters: a wooden farm set at one visit and a wooden village set at the other (both T. C. Timbers toys). The play sets were selected to provide opportunities for conflict (and potentially accompanying aggression of all types); specifically, each set of toys included several particularly desirable pieces (e.g., one swing set and one slide in the village set), an uneven number of some popular items (e.g., three ducks and three pigs in the farm set), items whose identity or functions were ambiguous (e.g., mailboxes in the village set, animals that could be either large dogs or small horses in the farm set), and several difficult to assemble pieces (e.g., barns in the farm set, a church in the village set). The ambiguous and difficult to assemble pieces were anticipated to provoke conflicts centering around what objects were, how they should be put together, and how they should be used during set-up and pretend play. Other researchers have used similar limited-resource situations to generate
low-frequency events in young children, such as social dominance (Charlesworth & Dzur, 1987) and relational aggression (Ostrov et al., 2004).

Assignment of the farm set and village set to sibling and friend sessions was counterbalanced within each of the eight sibling gender composition groups (4-year-old girl/2-year-old girl, 4-year-old girl/6-year-old girl, 4-year-old girl/2-year-old boy, 4-year-old girl/6-year-old boy, etc.) The research assistants emptied the pieces of the play set out of their container at the beginning of the taping session and told the children to play with the toys together. If the children asked what they were supposed to do with the toys, the research assistants told them “just play however you’d like.”

Transcribing and Coding

Undergraduate research assistants transcribed each tape, including all utterances by the target child, the sibling or friend, and any third parties who interacted with the children during the session (e.g., experimenter, parent, other siblings). Behaviors of the target child, sibling or friend, and third parties were described in a separate column, and 10-second intervals were marked on the transcript. Transcripts were checked for accuracy by a second research assistant and then typed.

For the purposes of the current analysis, sessions were coded for relational aggression and social engagement. Sessions were also coded for conflict, physical and verbal aggression, cooperation, competition, prosocial behavior, and pretend play (Cornwall et al., 2004; DeHart, 1999; DeHart, Kucharczak, Petri, & Kilpatrick, 1999; DeHart & Stauffacher, 2004; Wozniak et al., 1999).

All coding was done using both the videotape and the transcript for the session. Undergraduate research assistants who had not been on any family visits and who were blind to the specific hypotheses of the study were trained as coders. Before beginning to code, coders received a coding manual and were verbally tested on the content of the manual by the first author or by a trained coding group leader who had helped to refine the manual. Coders received further training by practicing on previously coded sample tapes with either the first author or the coding group leader. Once their coding of at least one sample tape perfectly matched the previously determined coding decisions, they were assigned to code new tapes with a more senior partner, who had been coding for at least six months. Coding pairs met in a group once a week with the coding group leader to discuss coding problems and review difficult segments. All coding disagreements were resolved by consensus of the group.

The behavior of each child in a dyad was coded separately. Aggression by both target child and partner (sibling or friend) was coded to provide measures of the overall level of aggression of the dyad, as well as each child’s contribution to it. In particular, examination of aggression at the individual level makes it possible to compare the target child’s behavior with two different interaction partners. Instances of aggression were identified based on a general definition of relational aggression (see relational aggression section below), and the relationally aggressive behaviors were further coded for form and function. Interobserver reliability was obtained for 20% of the total videotaped sessions. Cronbach’s alpha for incidence of relational aggression was .97, suggesting an acceptable level of reliability. Percent agreement on the form and function categories ranged from 83.3% to 100%.
Social Engagement. Social engagement was coded at 10-second intervals, using categories based on Parten (1932)—associative play, cooperative play, parallel play, solitary play, onlooker, unoccupied, and indeterminate. For the purposes of the current analysis, these categories were collapsed into three superordinate categories; intervals were categorized as engaged (partners mutually engaged—associative and cooperative play), semi-engaged (only one partner attending to the other—solitary/onlooker, unoccupied/onlooker), or unengaged (neither partner attending to the other—parallel play, combinations not involving onlooker) (DeHart et al., 1999).

Relational Aggression. The coding scheme for relational aggression used operational definitions and examples taken from a review of the literature, including previous questionnaire research conducted on relational aggression with siblings (O’Brien, 1999) and observational research conducted with preschool-aged peers (Ostrov & Keating, 2004). Specifically, relational aggression was defined as any verbal or nonverbal behavior that: (a) excluded or ignored the partner (e.g., refusing to acknowledge partner’s clear communication attempts), (b) threatened to exclude or ignore the partner (e.g., “I won’t play with you any more”), (c) intentionally embarrassed or humiliated the partner in front of others (e.g., “Did you see the video where he cries?”), (d) tried to damage the relationship the partner has with a third party (e.g., “MOM! Jakey is being bad and needs a spanking”), (e) threatened to damage the relationship the partner has with a third party (e.g., “I’ll tell Kelly you hit me and she won’t like you”), or (f) attacked or insulted the partner’s relationship with the target (e.g., “You’re a crappy brother” or “I hate you”).

In order to understand the nature of relational aggression within the larger context of aggression in general, we designed our relational aggression coding scheme to include form and function distinctions parallel to those made in the literature on other types of aggression. For example, distinctions between hostile and instrumental aggression (and between proactive and reactive aggression) have been used in the physical aggression literature for some time, and it has been argued that similar concepts should be applied to relational aggression as well1 (Little, Jones, Henrich, & Hawley, 2003; McNeilly-Choque et al., 1996).

First, acts of aggression were identified based on the accepted definition of relational aggression as any behavior with the clear intent to harm a partner through damage (or threat to damage) a relationship with either the partner or a third party. Several indications for intent to harm the victim were looked for, including changes in the overall pattern of interaction, the presence of negative affect from one or both children, disengagement from interactions or play following the incident, crying, making dejected faces, appealing to the partner to stop, or seeking assistance from a third party. Second, all acts of aggression were coded for which child (target or partner) was the aggressor. Third, since relational aggression can include nonverbal behavior, we distinguished between purely behavioral forms of relational aggression, such as physically moving away or withdrawing from interaction with a partner; purely verbal forms, such as verbally refusing to play or telling embarrassing stories, considered a form of gossiping and rumor spreading; combined forms, in which both

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1 Although the hostile/instrumental aggression and the reactive/proactive aggression distinctions are similar subtype delineations, they are not completely equivalent terms and have been associated with some different developmental trajectories (for review see Dodge & Coie, 1987).
verbal and behavioral components were used simultaneously; and ignoring, in which the child purposefully ignored communication attempts in order to exclude a partner. Fourth, we classified relationally aggressive behaviors as either hostile or instrumental in purpose. Hostile behaviors were those with the sole objective of causing the partner harm or pain, whereas instrumental behaviors were those in which the partner was caused harm or pain in order to achieve a clear secondary objective (such as hurting the partner in order to obtain possession of an object or get the partner to do something specific). These two categories of aggressive behaviors were considered mutually exclusive for coding purposes, although the intents themselves can co-occur. Although all aggressive behaviors have the goal of causing harm or pain, only instrumentally aggressive behaviors also include a secondary practical goal, such as gaining possession or compliance through these behaviors. Fifth, we classified aggressive behaviors as either provoked or unprovoked; provoked behaviors were acts of relational aggression that were in direct response to a behavior, malignant or benign, from the partner, whereas unprovoked behaviors were behaviors that were not in direct response to a behavior from the partner and appeared to “come out of nowhere.” Finally, we anticipated that since siblings share so many relationships with others, relational aggression would be used to attack more than just the sibling relationship itself. In light of this, we further coded the relationally aggressive acts as to which relationship was primarily being attacked: the sibling relationship, a peer relationship, or a relationship with an adult (usually a parent or a research assistant).

Results

Incidence of Relational Aggression

Identifiable acts of relational aggression occurred during many of the sibling and friend interactions we observed. Overall, sibling pairs averaged 3.29 acts of relational aggression per taping session (range: 0-22), and friend pairs averaged 1.16 acts of relational aggression per taping session (range: 0-9). However, not all of the dyads engaged in relational aggression while we were observing them. Over half of the sibling pairs (35/63) but only one-third of the friend pairs (21/63) produced codable relationally aggressive behavior during their play sessions.

To determine whether measures of the incidence of relational aggression should be adjusted to allow for variability in social engagement, a 2 (partner) x 2 (age group) x 2 (target child gender) x 2 (sibling gender) repeated measures ANOVA was conducted, with the number of minutes the dyad spent in social engagement or semi-engagement as the dependent variable. Semi-engagement was included because some forms of relationally aggressive behavior, such as ignoring, generally occur when one member of a dyad is attending to or attempting to gain the attention of the other, rather than when partners are mutually engaged. There was a significant partner effect, $F(1, 51) = 27.85, p < .001$, with friends spending significantly more time in social engagement or semi-engagement (mean = 7.39 minutes, $SD = 2.84$) than siblings did (mean = 4.82 minutes, $SD = 2.59$). There were no significant age group or gender effects.

2 Physical aggression and non-relational forms of verbal aggression in this sample have also been observationally coded and have been found to provide unique information and to be non-overlapping with relational aggression (DeHart & Stauffacher, 2004).
As a result, for subsequent analyses, the frequency of relational aggression by each dyad (or by individuals within the dyad) was divided by the number of minutes the dyad spent engaged or semi-engaged, to correct for variability in the proportion of time spent in social engagement and semi-engagement and in the overall length of play sessions.

To examine each child’s individual contribution to dyadic relational aggression, rates of relational aggression, adjusted for social engagement, were analyzed separately for target children and their partners, using 2 (partner) x 2 (age group) x 2 (target child gender) x 2 (sibling gender) repeated measures ANOVAs. Because of the low incidence and high variability of the relational aggression rates, a square-root transformation \(\sqrt{(X+.5)}\) was applied to these data before they were analyzed.

**Target child relational aggression rates.** As shown in Table 1, the target children showed different rates of relational aggression toward siblings and toward friends. (Target girls with younger sisters were excluded from the analysis because they produced no relational aggression in interactions with their friends.) Target children produced higher rates of relationally aggressive behaviors when interacting with their siblings than when interacting with their friends, \(F(1, 53) = 7.99, p < .01\). There were no significant effects of target child or sibling gender and no interaction effects.

**Partner relational aggression rates.** As shown in Table 1, the partners of the target children also varied in the rates of relational aggression they displayed. The data produced by partners of the target girls could not be included in the analysis because four of the eight categories of partners produced no relational aggression at all (older brothers of target girls, as well as friends of target girls with younger sisters, younger brothers, and older sisters). However, inspection of the data reveals that target girls in most gender composition categories were far more likely to receive relational aggression from their siblings than from their friends; in fact, only target girls with older sisters received any relational aggression at all from friends.

To analyze target boys’ rates of relational aggression with siblings and with friends, a 2 (partner) x 2 (age group) x 2 (sibling gender) repeated measures ANOVA was used. Target boys’ siblings produced more relational aggression than their friends did, \(F(1,28) = 4.36, p < .05\). There were no significant effects for sibling gender and no interaction effects.

In summary, quantitative analyses revealed that sibling dyads were more likely to engage in relational aggression than friend dyads were. At the individual level, both target children and their partners produced a higher rate of relational aggression during sibling interactions than during friend interactions.

**Types of Relational Aggression**

Tables 2 and 3 display the types of relational aggression used by the target children and by their siblings and friends. Because of the large number of cases in which children in a particular gender composition category always used one type of relational aggression and never used other types, it was not possible to use analysis of variance with these data. However, an inspection of the data reveals some probable differences between partners and among gender composition categories.
Table 1.
Mean Rates of Target and Partner Relational Aggression
(Aggressive Acts per Minute of Social Engagement or Semi-Engagement)

<table>
<thead>
<tr>
<th>Target and Sibling Gender and Age</th>
<th>Produced by Target Toward Sibling</th>
<th>Produced by Target Toward Friend</th>
<th>Produced by Partner By Sibling</th>
<th>Produced by Partner By Friend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Target (4-year-old)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>.95 (.29)</td>
<td>0.00 (.00)</td>
<td>.13 (.29)</td>
<td>.00 (.00)</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>.24 (.56)</td>
<td>.30 (.45)</td>
<td>.65 (.88)</td>
<td>.27 (.37)</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>1.28 (1.60)</td>
<td>.43 (.51)</td>
<td>.07 (.13)</td>
<td>.00 (.00)</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>.13 (.23)</td>
<td>.04 (.09)</td>
<td>.00 (.00)</td>
<td>.00 (.00)</td>
</tr>
<tr>
<td>Male Target (4-year-old)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>.40 (.70)</td>
<td>.11 (.16)</td>
<td>.08 (.20)</td>
<td>.07 (.10)</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>.18 (.36)</td>
<td>.03 (.11)</td>
<td>.29 (.39)</td>
<td>.02 (.05)</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>.88 (1.63)</td>
<td>.09 (.17)</td>
<td>.34 (.60)</td>
<td>.23 (.39)</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>.29 (.50)</td>
<td>.03 (.10)</td>
<td>.84 (1.43)</td>
<td>.09 (.24)</td>
</tr>
</tbody>
</table>

Standard deviations are shown in parentheses. Partner effects for aggression produced by both the target (both genders) and the partner (male targets only) were significant at $p < .01$ level. All other effects are non-significant at $p > .05$.

Target child relational aggression types. As shown in Table 2, target girls’ choice of relational aggression type seems to be related to the age of their siblings. Those with 2-year-old siblings used mainly ignoring, even when they were with friends, whereas those with 6-year-old siblings seemed to favor verbal relational aggression. On the other hand, target boys used verbal relational aggression more than any other type, especially with their friends. With their siblings, they used a wider variety of verbal and behavior types of relational aggression, but they seldom used ignoring.

Partner relational aggression types. As shown in Table 3, sisters of target girls, regardless of age, and older sisters of target boys used ignoring more than other types of relational aggression. Brothers used primarily verbal relational aggression, regardless of whether the target child was a boy or a girl. Interestingly, 2-year-olds relied almost entirely on verbal relational aggression, except for girls with older sisters, who also used ignoring. Target girls received almost no relational aggression of any kind from their friends. In interactions with friends, target boys with older siblings received only verbal relational aggression, whereas those with younger siblings received a wider range of relational aggression types.

In summary, qualitative analysis suggests that girls carried out relational aggression mainly by ignoring their partners, especially if the partner was younger or female. In contrast, boys relied heavily on verbal relational aggression, regardless of partner age or gender. Interestingly, sibling age and gender seemed to make a difference in interactions with friends as well as in interactions with siblings themselves.
Table 2.

Type of Relational Aggression Used by Target Children

<table>
<thead>
<tr>
<th>Target and Sibling Gender and Age</th>
<th>Toward Sibling</th>
<th>Toward Friend</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verbal</td>
<td>Behavioral</td>
<td>Combined</td>
<td>Ignoring</td>
<td>Verbal</td>
<td>Behavioral</td>
<td>Combined</td>
</tr>
<tr>
<td>Female Target (4-year-old)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>38.6%</td>
<td>3.4%</td>
<td>8.0%</td>
<td>50.1%</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>65.0%</td>
<td>2.5%</td>
<td>20.0%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>3.8%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>96.2%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>77.8%</td>
<td>11.1%</td>
<td>11.1%</td>
<td>0.0%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Male Target (4-year-old)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>46.7%</td>
<td>43.3%</td>
<td>0.0%</td>
<td>10.0%</td>
<td>50.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>75.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>25.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>65.4%</td>
<td>0.0%</td>
<td>17.9%</td>
<td>16.7%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>30.6%</td>
<td>11.1%</td>
<td>50.0%</td>
<td>8.3%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Dashes denote cells without relational aggression.
Table 3.
Type of Relational Aggression Used by Target Children's Interaction Partners

<table>
<thead>
<tr>
<th>Target and Sibling</th>
<th>By Sibling</th>
<th>By Friend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender and Age</td>
<td>Verbal</td>
<td>Behavioral</td>
</tr>
<tr>
<td>Female Target (4-year-old)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>30.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>34.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Male Target (4-year-old)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>36.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>83.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>68.3%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Dashes denote cells without relational aggression.
Functions of Relational Aggression

Tables 4 and 5 display characteristics related to the functions of relational aggression used by the children in the study. Once again, the presence of cells with zero variance makes analysis of variance impossible for these data, but some qualitative impressions can be formed from examining the data.

Target child relational aggression functions. As shown in Table 4, across most sibling gender composition categories, relational aggression was aimed partly at the relationship with the current interaction partner, and partly at relationships with adults (there were no instances of relational aggression aimed at peer relationships). Target boys seemed more likely than target girls to aim relational aggression at a relationship between their interaction partner and an adult, except when they were dealing with an older sibling. For target girls, the age and gender of their sibling seemed to make a difference in what relationship was most likely to be attacked. During sibling interactions, 4-year-old girls with younger sisters aimed their relational aggression exclusively at the sibling relationship. During friend interactions, 4-year-old girls with older brothers aimed their relational aggression exclusively at the friendship.

Overall, target children were far more likely to use hostile aggression than instrumental aggression, especially in interactions with friends. However, target girls with brothers used relational aggression equally for hostile and instrumental purposes.

Target children’s relational aggression was usually provoked in interactions with both siblings and friends. In interactions with younger opposite-sex siblings, however, target children produced almost equal proportions of provoked and unprovoked relational aggression.

Partner relational aggression functions. Table 5 reflects once again the paucity of relational aggression directed toward the target girls by their friends and the range of relational aggression directed toward the target boys by both siblings and friends. Overall, both siblings and friends directed about half of their relational aggression toward their relationship with the target child; the rest was directed toward relationships with adults (in this case, always with the experimenters). Older sisters of target boys and friends of boys with older brothers were exceptions to this rule, directing the vast majority of their relational aggression at their relationship with the target child.

Relational aggression directed toward target children by older sisters and by younger siblings of the same gender was almost always hostile. Younger brothers of female targets and older brothers of male targets produced almost equal amounts of hostile and instrumental relational aggression. Target boys with older siblings received only hostile relational aggression from their friends, whereas about one-third of the relational aggression received by target boys with younger siblings was instrumental.

Almost all of the relational aggression produced by siblings and friends was provoked. Two-year-old brothers were the exception to that rule; less than half of their relational aggression occurred in response to immediate provocation.
Table 4.
Characteristics of Relational Aggression Used by Target Children

<table>
<thead>
<tr>
<th>Target and Sibling Gender and Age</th>
<th>Toward Sibling</th>
<th>Toward Friend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aimed at Sib Relationship</td>
<td>Hostile Aggression</td>
</tr>
<tr>
<td>Female Target (4-year-old)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>56.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>53.9%</td>
<td>50.0%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>38.9%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Male Target (4-year-old)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-year-old Sister</td>
<td>30.0%</td>
<td>90.0%</td>
</tr>
<tr>
<td>6-year-old Sister</td>
<td>68.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2-year-old Brother</td>
<td>50.0%</td>
<td>96.2%</td>
</tr>
<tr>
<td>6-year-old Brother</td>
<td>80.6%</td>
<td>66.7%</td>
</tr>
</tbody>
</table>

Dashes denote cells without relational aggression.
Table 5.
Characteristics of Relational Aggression Used by Target Children's Interaction Partners

| Target and Sibling Gender and Age | By Sibling | | | By Friend |
|----------------------------------|-----------|-----------|-----------|
|                                  | Aimed at Sib Relationship | Hostile Aggression | Provoked | Aimed at Friendship | Hostile Aggression | Provoked |
| Female Target (4-year-old)       |           |           |           |           |           |           |
| 2-year-old Sister                | 50.0%     | 100.0%    | 100.0%    | —         | —         | —         |
| 6-year-old Sister                | 66.5%     | 84.0%     | 96.0%     | 50.0%     | 50.0%     | 100.0%    |
| 2-year-old Brother               | 53.9%     | 50.0%     | 50.0%     | —         | —         | —         |
| 6-year-old Brother               | —         | —         | —         | —         | —         | —         |
| Male Target (4-year-old)         |           |           |           |           |           |           |
| 2-year-old Sister                | 50.0%     | 0.0%      | 100.0%    | 33.3%     | 66.7%     | 100.0%    |
| 6-year-old Sister                | 84.3%     | 95.0%     | 81.0%     | 0.0%      | 100.0%    | 100.0%    |
| 2-year-old Brother               | 33.3%     | 96.2%     | 35.0%     | 53.2%     | 71.4%     | 88.9%     |
| 6-year-old Brother               | 51.7%     | 58.3%     | 93.3%     | 80.0%     | 100.0%    | 100.0%    |

Dashes denote cells without relational aggression.
Discussion

This research provides evidence that not only do preschoolers use relational aggression with their siblings, but they do so at a greater rate than they do with their friends. Although overarching differences between boys’ and girls’ frequency of relational aggression were not found, this is not an unprecedented result. Despite the fact that many researchers have observationally found gender differences in preschoolers’ use of relational aggression with peers (e.g., McNeilly-Choque et al., 1996; Ostrov & Keating, 2004; Ostrov et al., 2004), several other researchers have failed to find preschool-aged girls engaging in more relational aggression than boys (McEvoy et al., 2003; Hart et al., 1998).

There are several possible explanations for the observed lack of gender differences in the overall incidence of relational aggression. The age of the children may play a role, in that gender-typical patterns of social interaction, such as relational aggression, may not yet be well established in preschoolers. Children may require the greater socialization that comes with age and increased feedback from ongoing contact with parents, siblings, teachers, and peers, in order to develop more gender-typical patterns of social behavior. Setting and partner may also be involved. For example, preschoolers may be less likely to behave in gender-typical ways at home than at school. Past research on preschool sibling interaction has suggested that gender-typical behavior observed in preschoolers’ interactions with peers does not necessarily carry over to interactions with siblings (e.g., DeHart, 1999).

The results also provide some evidence that sibling age and gender have an impact on how children use relational aggression with both their siblings and their friends. For example, girls with younger siblings tended to use ignoring with siblings and friends, while girls with older siblings were more likely to use the verbal types of relational aggression. Conversely, regardless of their siblings’ age, boys favored verbal forms of relational aggression (sometimes in combination with behavioral forms) over ignoring, in both sibling and friend interactions. Older sisters seemed to use relationally aggressive behaviors as a means of cutting off or avoiding unwanted interaction with their partners, while brothers and younger sisters seemed to use relationally aggressive behaviors in the midst of ongoing interaction—for example, as a tactic during conflicts—or to get their siblings’ attention. In particular, we noticed that boys often seemed to try relational aggression (for example, trying to embarrass their partners in front of a research assistant) when they were losing or had just lost a conflict involving physical aggression.

Most of the children seemed about as likely to attack the relationship with their interaction partner as they were to attack the partner’s relationship with an adult. However, target girls seemed somewhat more likely than target boys to attack the relationship with their interaction partner, and the same was true for older sisters of target boys. This offers further evidence that girls use relational aggression more selectively and with more specific aims than boys do, and that this tendency may increase with age.

Generally, children seemed to use relational aggression in response to an immediate provocation from their partner; however, age and gender also made some difference in the likelihood of unprovoked relational aggression. Both target children with opposite-gender younger siblings and 2-year-old brothers of male or female targets seemed more likely than the rest of the children to produce unprovoked relational aggression. For both of these
categories of children, it may be that frustration explains this heightened use of relational aggression. The 4-year-olds may find their opposite-gender younger siblings frustrating to deal with because of mismatches in boys’ and girls’ interaction styles, as described by Maccoby (2002) for peer interactions. The 2-year-old boys may resort to relational aggression (and possibly other forms of aggression as well) to get their older brothers’ and sisters’ attention because they lack more sophisticated strategies for influencing their siblings’ behavior.

Our results also suggest that the age and gender of a child’s sibling may make a difference in how friends use relational aggression with the target child. Of particular interest is the finding that girls with 6-year-old sisters were the only target girls to receive relational aggression from their friends. Although the current study did not specifically test relational victimization over time, this observation may have implications for research on relational victimization (frequently and chronically receiving relationally aggressive behaviors from others; for review see Crick et al., 2001). Given that sibling age and gender did not make a difference in target girls’ rates of relational aggression, this finding suggests that something else about having an older sister may increase girls’ risk for relational victimization. Interestingly, target girls with 6-year-old sisters also seemed more likely to receive relational aggression from their sisters. Perhaps behavior patterns established during interactions with older sisters are somehow carried over by these girls into interactions with friends.

Together these observations suggest that older sisters in general may have a specific mode of relational aggression, while their brothers and younger sisters may be more variable in their use of relational aggression. Family structural factors may help to identify children at risk for later relational victimization; specifically, having an older sister may place young children, especially girls, at risk for unprovoked, hostile ignoring by the sibling and also victimization by peers. Future studies should examine more closely the role that family structure may play in predicting children’s risk for both becoming relationally aggressive and being relationally victimized later by peers.

As the first study to use home-based observational methods to assess siblings’ and friends’ use of relational aggression, the present study expands existing knowledge of the normative development of relational aggression in early childhood and raises some interesting possibilities for the role of gender in young children’s use of relational aggression. However, the combination of a small sample, relatively short observation sessions, and the somewhat low incidence of observable relationally aggressive behavior resulted in low statistical power, which may have affected our ability to find interaction effects among partner, age group, target child gender, and sibling gender.

An additional limitation associated with our use of observational methods is reactivity. Although virtually all the parents reported that their child’s behavior on our tapes was typical, children did respond to the presence of the experimenters. This provided us with some unexpected opportunities to observe children’s use of relationships with research assistants as vehicles of aggression, but it may also have affected the type and frequency of the relational aggression we were able to observe. Since relational aggression appears to be built on a high level of intimacy and shared secrets, some children may not need to directly comment on a secret to cause hurt to their partner. Furthermore, because relational aggression often occurs out of direct sight of adults, children may be less likely to produce relationally aggressive behaviors when they know they are being observed, even in early childhood. Reactivity and
a limited period of observation may have prevented us from picking up some of these more subtle or covert instances of relational aggression.

Although a longer observational period or greater range of observational settings might have made some relationally aggressive behaviors more apparent, some simply may not be observable in sibling and friend relationships with the current paradigm. Using other methods such as peer, sibling, teacher, or parent questionnaires in addition to behavioral observations would add additional support to our findings and might uncover evidence of more covert behaviors. Although some researchers have found divergent results between observational and questionnaire methods (McEvoy et al., 2003), others have found greater convergence (Ostrov & Keating, 2004), suggesting that multi-method assessment of relational aggression between siblings and friends in early childhood would be worthwhile.

Despite the limitations of the method, these findings further support the assertion that studies of sibling relationships have incredible utility for furthering understanding of how children develop aggressive behavior. Future studies should continue to examine the role of sibling relationships in fostering and developing relational aggression and explore how features of sibling relationships, including relationship quality, are related to the frequency and effectiveness of various subtypes of aggression, including physical, relational, and verbal forms. Although this study begins to distinguish the ways in which children use relational aggression across relationship contexts, examining triads that include both peers and siblings may provide unique pieces of information to this end. Since it appears that relational aggression begins to be used with siblings as early as age two, examining sibling relational aggression longitudinally may prove fruitful in understanding the development of relationally aggressive youth. Additional fine-grained analysis of the interaction contexts in which children use relational aggression may also be useful in understanding how relational aggression unfolds over time.

References


