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Relational and Overt Aggression in Childhood and Adolescence: Clarifying Mean-Level Gender Differences and Associations with Peer Acceptance

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Abstract

Research on relational aggression has drawn attention to how girls may be likely to aggress, but the role of gender is not fully understood. There are opposing views regarding whether relational aggression is most common among girls. Current findings demonstrate that when gender differences in relational aggression are assessed with peer nominations, gender differences favoring girls are more likely: a) in adolescence than childhood and b) when statistical overlap with overt aggression is controlled. Results also indicated that associations of relational aggression with peer acceptance depend on the aggressor's gender, the peer rater's gender, and whether overlap with overt aggression is controlled. Associations of relational aggression with lower acceptance became non-significant when overt aggression was controlled, suggesting that relational aggression displayed in isolation may not damage acceptance. In fact, in mid-adolescence, girls' relational aggression predicted *greater* liking by boys. Reducing relational aggression among adolescent girls may be especially challenging if the behavior is linked with acceptance by boys.

Aggression among youth has long been a focus of attention given the negative adjustment correlates for aggressors and victims (Coie & Dodge, 1998). However, this research primarily focused on overt physical and verbal aggression (Crick et al., 1999). Also, because these aggression forms are more common among boys, the research has focused more on boys than girls. The more recent focus on relational aggression and associated aggression forms (social and indirect aggression) has drawn attention to how girls may be likely to aggress. However, the role of gender in relational aggression is not fully understood.

The present study focuses on the role of gender in relational aggression and has two aims. The first is to better understand mean-level gender differences in relational aggression. Results of studies examining gender differences in relational, social, and indirect aggression are mixed (Underwood, 2003). Taking age and statistical overlap with overt aggression into account is proposed to be important for understanding these differences. The second aim is to better understand associations of relational aggression with peer acceptance. Studies testing this relation typically aggregate across acceptance scores from girls and boys. The current study tests whether the relation depends on whether acceptance is assessed among girls or boys. The question of whether these relations are influenced by whether overt aggression is controlled also is addressed. Gender differences in overt aggression and relations of overt aggression with acceptance are considered to allow for comparisons with relational aggression.

In our review of past research, we include studies of relational, social, and indirect aggression. Relational aggression involves behaviors intended to harm others by way of social relationships, such as excluding and spreading rumors (Crick & Grotpeter, 1995). Social aggression refers to similar excluding behaviors and attacks on others' reputations (Cairns, Cairns, Neckerman, Ferguson, & Garipey, 1989) and has been expanded to explicitly include non-verbal gestures (Galen & Underwood, 1997). Indirect aggression refers to behaviors that harm a peer through another person rather than directly (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). We use the terms relational, social, or indirect aggression as appropriate to refer to past studies. We use the term relational aggression to refer to our hypotheses because the measure we use was published as a measure of relational aggression (Crick & Grotpeter, 1995). Also, because an exhaustive review is beyond the scope of this paper, we primarily focus on studies using peer reports of aggression given the strengths of this method (e.g., peers are privy to social information not available to adults; Bjorkqvist, Osterman, & Kaukiainen, 1992; Crick & Grotpeter, 1995) and because we used peer reports. Last, we focus primarily on studies of middle childhood and adolescence, which were the age groups examined in the present study.

The Development of Aggression in Girls and Boys

Physical aggression is highest in early childhood and decreases with age as children are socialized away from physical aggression and learn to express anger verbally; however, with age, verbal aggression decreases as well (Coie & Dodge, 1998; Parke & Slaby, 1983). For most children, overt physical and verbal aggression decrease during elementary school (Coie & Dodge, 1998). This does not mean, though, that anger and frustration disappear. It has been hypothesized that more subtle aggression forms, such as relational, social, and indirect aggression, may increase as children develop the verbal and social-cognitive skills necessary to execute more subtle forms of aggression effectively (see Bjorkqvist 1994; Crick et al., 1999).

In the current research, gender differences in aggression are of interest. Girls are socialized away from overt aggression more strongly than boys, and boys are more overtly aggressive than girls in childhood and adolescence (see Archer, 2004; Coie & Dodge, 1998; Parke & Slaby, 1983). Also, given that girls' verbal and social-perspective taking skills develop more rapidly compared to boys, girls may engage in more subtle forms of aggression earlier than boys (see Crick et al., 1999). However, research regarding whether there are gender differences in relational, social, and indirect aggression is mixed (Underwood, 2003).

Clarifying whether there are gender differences in relational aggression is of applied significance. Relational aggression is related to a host of adjustment difficulties (see Crick et al., 1999), and intervention with relationally aggressive youths is warranted. Given that early research (e.g., Crick & Grotpeter, 1995) and popular conceptions (e.g., Wiseman, 2003; see Underwood, 2003) indicate that relational aggression is most common among girls, it may be tempting to focus research and intervention efforts on girls. However, if gender differences in relational aggression do not strongly and consistently favor girls, then minimizing boys' involvement in these efforts would be a mistake. Therefore, better understanding the strength and consistency of gender differences in relational aggression is important.

Developmental differences

Taking age into account should be useful for clarifying the mixed findings. Many gender differences strengthen at adolescence (Hill & Lynch, 1983), and the gender difference in relational aggression has been proposed to strengthen at this transition (Crick & Rose, 2000). At adolescence, girls may desire to manipulate the social context through subtle

aggression forms as peer relationships take on greater importance (Rubin, Bukowski, & Parker, 1998) and as their social perspective-taking skills, which are more advanced than those of boys (Schonert-Reichl & Beaudoin, 1998), allow them to effectively use these aggression forms. If this is the case, studies should more consistently indicate gender differences in relational, social, or indirect aggression favoring girls in adolescence than middle childhood.

In fact, two recent meta-analyses (Archer, 2004; Card, Stucky, Sawalani, & Little, 2008) address the question of whether gender differences in indirect forms of aggression, including relational aggression, vary with age in childhood and adolescence. However, the reviews arrive at different conclusions. Card et al. (2008) conclude that there are not age differences in the strength of the gender difference in childhood and adolescence. However, in testing this question, Card and colleagues (2008) collapse across the different methods of assessing relational aggression (i.e., observations, self-, parent-, peer-, and teacher-reports). In contrast, Archer (2004) did find that gender differences favoring girls become stronger with age when considering only studies assessing indirect aggression with peer reports. Testing for age moderation *within* methods for assessing indirect aggression likely is important given that both meta-analyses indicate that whether or not gender differences in indirect aggression emerge depend on the method used.

The findings regarding peer report methods are especially relevant to the current study, and a review of the literature that includes more recent studies that were not included in the Archer (2004) meta-analysis also indicates that gender differences in relational, social, and indirect aggression increase with age in studies using peer reports. In middle childhood, gender effects for relational, social, and indirect aggression are mixed. Many studies favor girls (Crick, 1997; Crick & Grotpeter, 1995; Hayward & Fletcher, 2003; Lagerspetz, Bjorkqvist, & Peltonen, 1988; Rys & Bear, 1997; Xie, Farmer, & Cairns, 2003; Zimmer-Gembeck, Geiger, & Crick, 2005), but some find no differences (Bjorkqvist et al., 1992; Henington, Hughes, Cavell, & Thompson, 1998; Osterman et al., 1994; Phillipsen, Deptula, & Cohen, 1999; Rys & Bear, 1997; Xie et al., 2003; Zimmer-Gembeck et al., 2005). Others even indicate that boys are more relationally or indirectly aggressive than girls (David & Kistner, 2000; Henington et al., 1998; Salmivalli & Kaukiainen, 2004; Tomada & Schneider, 1997). In adolescence, more of the evidence points to girls being more relationally, socially, or indirectly aggressive (Bjorkqvist, et al., 1992; Hayward & Fletcher, 2003; Prinstein & Cillessen, 2003; Salmivalli, Kaukiainen, & Lagerspetz, 2000; Xie, Swift, Cairns, & Cairns, 2002; Xie et al., 2003; c.f., Peets & Kikas, 2006; Salmivalli & Kaukiainen, 2004).

It is surprising that single studies have not directly tested whether gender differences in relational, social, or indirect aggression increase at the transition to adolescence. Past studies generally examined a narrow age range (e.g., Henington et al., 1998; Lagerspetz et al., 1988; Salmivalli et al., 2000) or included a larger range but did not test for developmental differences in the strength of the gender differences (Bjorkqvist et al., 1992; Cairns et al., 1989; Hayward & Fletcher, 2003). A few studies tested for developmental differences in the gender difference in relational aggression in middle childhood. One found that the strength of the gender difference favoring girls increased from third to sixth grade (Zimmer-Gembeck et al., 2005). However, the others did not find an increase in the strength of the gender difference (Crick, 1997; Crick & Grotpeter, 1995; Rys & Bear, 1997), perhaps because the increase is not pronounced until later in development. The current study tests developmental differences in the strength of the gender difference in relational aggression from middle childhood to mid-adolescence.

Controlling for overt aggression

Previous research indicates strong correlations between relational and overt aggression ranging from about .60 to .75 (Crick et al., 1999). Correlations at the higher end of this range (.70 to .75) mean that scores for one aggression form account for about half of the variance in scores for the other form. This implies that many aggressive youths will engage in both aggression forms but that some will engage primarily in one form or the other. In the present research, overlap between overt and relational aggression is taken into account to further clarify mixed findings regarding gender differences in relational aggression. Notably, the question of whether gender differences in relational aggression are impacted by whether or not overt aggression is controlled was not considered in the recent meta-analyses considering gender differences in indirect forms of aggression (Archer, 2004; Card et al., 2008).

As in past research, two approaches are used to take into account the overlap between overt and relational aggression. The categorical approach involves creating separate aggression groups (Crick & Grotpeter, 1995). With this approach, groups of youths who are either primarily overtly aggressive (≥ 1 SD above the mean only on overt aggression) or primarily relationally aggressive (≥ 1 SD above the mean only on relational aggression) are identified. A group of youths who score high on both overt and relational aggression (≥ 1 SD above the mean on both) also is identified. In order to take the overlap between relational and overt aggression into account when examining gender differences in relational aggression, the gender composition of the group who is high primarily on relational aggression is examined separately from the gender composition of the group who is high on both relational and overt aggression.

A major benefit of the categorical approach is that it is a highly intuitive person-centered approach. However, there also are drawbacks. First, the cut-off scores are arbitrary (i.e., there is no strong rationale for choosing 1 SD above the mean). In addition, youths may be classified in one aggression group (e.g., relational aggression group) even if they score quite high on the other aggression form (e.g., .9 SD above the mean on overt aggression). Also, even with large samples, the number of youths in the aggression groups is relatively small (e.g., Crick, 1997; Crick & Grotpeter, 1995; Henington et al., 1998), which can compromise the power of study designs.

The continuous approach to taking overlap with overt aggression into account is not hampered by these problems. With the continuous approach, the effect of gender on the continuous relational aggression variable is tested with and without statistically controlling for overt aggression. When overt aggression is controlled, variance that is due to the effect of gender on overt aggression and the effect of overt aggression on relational aggression is partialled out.

Despite the strengths of the continuous approach (which is a variable-centered approach), a drawback is that the meaning of the findings is not highly intuitive. Considering how the two approaches provide complementary information is useful for clarifying the meaning of results from the continuous approach. In terms of the categorical approach, it is reasonable to expect that the group of youths who are high on both overt and relational aggression could include a sizable number of boys given that boys are more overtly aggressive than girls (e.g., Archer, 2004) and overt and relational aggression are related (see Crick et al., 1999). This could result in there being no gender difference in the composition of this group. Likewise, when overt aggression is not controlled using the continuous approach, a gender difference favoring girls in relational aggression may not emerge because a number of the youths with high relational aggression scores may be boys who also score high on overt aggression. However, when overt aggression is controlled using the continuous approach,

this overlap between overt aggression and relational aggression is partialled out, and the effect of gender (favoring girls) on relational aggression should become stronger. Such findings would be analogous to results from the categorical approach indicating that girls are overrepresented in the group of youths who score high (≥ 1 SD) on only relational aggression.

Accordingly, both methods of controlling for overt aggression provide information about youths who are primarily relationally aggressive. Findings indicating a strong correlation between overt and relational aggression (see Crick et al., 1999) and using the categorical approach (e.g., Crick, 1997; Henington et al., 1998) suggest that relatively few youths score high on only relational aggression. Nevertheless, these youths should not be ignored. There are important implications of understanding gender differences in the likelihood scoring high on both overt and relational aggression versus scoring high on only relational aggression. For instance, if boys who are relationally aggressive are especially likely to be overtly aggressive too, then boys' more blatant overt aggression could draw focus away from their relational aggression, resulting in misperceptions that boys are not relationally aggressive. Such perceptions could result in a bias toward focusing prevention and intervention efforts regarding relational aggression only on girls.

In the current study, the gender difference in relational aggression is examined not controlling for overt aggression and using both approaches to controlling. Past studies suggest that gender differences favoring girls are greatest when overt aggression is controlled. Studies in middle childhood using the continuous approach without controlling for overt aggression are mixed. Some favored girls (Crick, 1997; Crick & Grotpeter, 1995; Lagerspetz et al., 1988; Zimmer-Gembeck et al., 2005), but others found no difference (Bjorkqvist, et al., 1992; Osterman et al., 1994; Phillipsen et al., 1999; Rys & Bear, 1997; Zimmer-Gembeck et al., 2005) or favored boys (David & Kistner, 2000; Henington et al., 1998; Salmivalli & Kaukiainen, 2004; Tomada & Schneider, 1997). More consistent findings emerge in middle childhood when overt aggression is controlled. Although one study controlling for overt aggression with the continuous approach did not find a gender difference (Tomada & Schneider, 1997), studies using the categorical approach favor girls (Crick, 1997; Crick & Grotpeter, 1995; Hayward & Fletcher, 2003; Henington et al., 1998; Rys & Bear, 1997). As noted, most studies in adolescence favored girls, and this was true regardless of whether overt aggression was controlled (Hayward & Fletcher, 2003; Salmivalli & Kaukiainen, 2004) or not (Bjorkqvist, et al., 1992; Prinstein & Cillessen, 2003; Salmivalli et al., 2000; c.f., Peets & Kikas, 2006).

To provide a strong test of whether controlling for overt aggression influences the likelihood of finding a gender difference, the difference needs to be tested with and without controlling for overt aggression in single studies. Few studies have done this, and those that have used only the continuous or categorical approach. A study with the continuous approach found a gender difference in relational aggression favoring boys regardless of whether overt aggression was controlled (Tomada & Schneider, 1997). However, more support for the current hypothesis comes from studies using the categorical approach. In two studies (Crick, 1997; Crick & Grotpeter, 1995), a small difference favoring girls was found when overt aggression was not controlled, but analyses of the aggression groups revealed large effects favoring girls. In a third study in which boys were more relationally aggressive than girls when overt aggression was not controlled, the effect switched direction when overt aggression was controlled with the relational aggression group including nonsignificantly more girls than boys (Henington et al., 1998).

Our study provides a particularly strong test of the hypothesis by comparing the gender effects when overt aggression is not controlled to the effects that emerge using both the

continuous and categorical approaches to controlling for overt aggression. Further, it is not known from past research whether the predicted increase in the gender difference in relational aggression at adolescence will hold with and without controlling for overt aggression. The current study extends past research by comparing the gender difference in relational aggression with and without controlling for overt aggression in adolescence as well as in middle childhood.

The Role of Gender in the Association of Aggression with Peer Acceptance

The role of gender also needs to be further examined in regards to the relation of aggression with peer acceptance. Much research has demonstrated a link between aggression and peer acceptance (Rubin, et al., 1998). In middle childhood, both overt and relational aggression are related to lower peer acceptance (Crick et al., 1999; Rubin, et al., 1998). However, at the transition to adolescence, youth demonstrate greater attraction to aggressive peers (Bukowski, Sippola, & Newcomb, 2000). As youth strive to increase their autonomy, they may become more accepting of behaviors like aggression that may be perceived as demonstrating independence because they are not sanctioned by adults (Bukowski et al., 2000; see also Moffit, 1993).

The current study contributes to our understanding of gender, aggression, and acceptance in two ways. The first involves considering differences in associations of relational and overt aggression with acceptance by girls versus acceptance by boys. The second involves examining these associations both with and without controlling for the alternate aggression form.

Acceptance by girls versus boys

There may be critical differences between aggressive youths' acceptance by girls versus boys. First, girls' relational aggression is predicted to be linked more strongly with lower acceptance by girls than boys. Girls relationally and socially aggress more toward girls than boys in early childhood and early adolescence (Crick et al., 2006; Paquette & Underwood, 1999) and possibly in middle childhood too. Girls may view relationally aggressive girls especially negatively if they are most often the girls' victims. Also, because norms in girls' groups involve greater cooperation and prosocial behavior than boys' groups (see Rose & Rudolph, 2006), relational aggression may violate girls' expectations for "nice" behavior. Moreover, in middle childhood and early adolescence, girls are more sensitive to relational aggression in that they think about and are distressed by relational and social aggression more than boys (Crick, 1995; Paquette & Underwood, 1999). Especially in adolescence, girls also may relationally aggress against other girls to strengthen relationships with boys (e.g., to steal a girl's boyfriend; see Crick & Rose, 2000; Werner & Crick, 1999). If this is the case, girls' relational aggression could even lead to their being relatively well liked by boys.

Girls' overt aggression also may be viewed most negatively by girls. Blatant overt aggression may be especially inconsistent with girls' expectations for other girls given group norms emphasizing cooperation and prosocial behavior (Rose & Rudolph, 2006). In fact, girls do view overt aggression more negatively than do boys (Huesmann, Guerra, Zelli, & Miller, 1992).

Whether aggressive boys will be liked less by girls or boys is unclear. Relationally aggressive boys may be liked less by girls due to girls' sensitivity to relational and social aggression (Crick, 1995; Paquette & Underwood, 1999). However, boys tend to direct relational and social aggression toward other boys in early childhood and early adolescence (Crick et al., 2006; Paquette & Underwood, 1999) and perhaps middle childhood too, which

may lead to lower liking by boys. Regarding overt aggression, if boys' group norms that emphasize competition and physical play (Rose & Rudolph, 2006) are more consistent with overt aggression than girls' norms, girls may like overtly aggressive boys least. However, at least in early childhood and early adolescence, boys tend to direct overt aggression at other boys (Crick et al., 2006; Paquette & Underwood, 1999), which could lead to lower acceptance by boys.

Only one study was identified that tested relations of aggression with liking by girls and by boys (Salmivalli et al., 2000). The study examined links of indirect, verbal, and physical aggression with liked-most and liked-least peer nominations in ninth grade. Results supported the current hypotheses in that aggressive girls were generally liked less by girls than boys. In fact, boys exhibited some liking for indirectly aggressive girls. Results were more mixed across aggression types and indexes of liking regarding whether girls or boys liked aggressive boys less.

Importantly, though, because statistical differences between acceptance by girls versus boys were not tested in this past study, it is unknown whether boys and girls differed significantly in their liking of aggressive peers. The current study provides the first test of these differences. Also, the past study included only ninth-grade youth. Considering a broader age range is important given developmental differences in attraction to aggressive peers.

Controlling for the alternate aggression form

The overlap of overt and relational aggression also is taken into account when testing relations with acceptance. This is crucially important for understanding the implications regarding acceptance for youths who engage in both aggression forms versus primarily one form. Consider the possibility that overt aggression is especially offensive because it is more blatant than relational aggression, which can be carried out with some anonymity (e.g., spreading rumors) or ambiguous intent (e.g., excluding). If this is the case, relational aggression may appear to be related to lower acceptance because relational aggression is related to overt aggression, which is related to lower acceptance. However, the relation should become weaker or non-significant when overt aggression is partialled out. Such results would imply that relational aggression is weakly related or unrelated to lower acceptance in the absence of overt aggression. In contrast, the relation of overt aggression with lower acceptance would remain significant while controlling for relational aggression.

Past studies provide some support for this hypothesis. Relational and indirect aggression are found to be related to lower acceptance in middle childhood and adolescence when overt aggression is not controlled (Crick, 1996; Rys & Bear, 1997; Salmivalli et al., 2000). However, when overt aggression is controlled, results are more mixed, with some studies finding significant relations with poorer acceptance (Crick & Grotpeter, 1995; Tomada & Schneider, 1997) but others finding relations only for subgroups of youth (e.g., younger youth, Zimmer-Gembeck et al., 2005; girls, Crick, 1996) or no relations (Prinstein & Cillessen, 2003).

Also, the cases in which the relations were tested with and without controlling for overt aggression in single studies provide support too (Crick, 1996; Rys & Bear, 1997; Salmivalli et al., 2000). These studies tested a number of relations with relational or indirect aggression because they assessed the relations for acceptance and rejection scores, girls and boys, and, in one case (Rys & Bear, 1997), different grades in middle childhood. To summarize across studies, when overt aggression was not controlled, a number of significant relations of relational or indirect aggression with lower acceptance and/or greater rejection emerged. However, when overt aggression was controlled, over half of these effects became non-significant and all remaining effects except one weakened. The one remaining effect actually

switched direction such that indirect aggression was related to greater acceptance (Salmivalli et al., 2000).

These studies suggest that associations of relational aggression with lower acceptance may be driven at least in part by statistical overlap between relational and overt aggression. However, the studies did not test the current hypothesis that the effects of overt aggression on lower peer acceptance would remain significant while controlling for relational aggression. Moreover, the studies did not examine the unique versus overlapping associations of relational and overt aggression with acceptance while testing the important question of whether these aggression forms have different implications for being accepted by girls versus boys.

Method

Participants were third-, fifth-, seventh-, and ninth- grade youth. The seventh- and ninth-grade youth and most of the third- and fifth- grade youth (about 80%) were recruited from a school district in a small town about 30 miles from a large Midwestern University. The seventh-grade youth were in a junior high school (grades 6–8) and the ninth-grade youth were in a high school (grades 9–12). The elementary schools each had two to four self-contained classrooms per grade. Because one of the three elementary schools in this town did not to participate, another elementary school was recruited. This school also was located in a small town about 30 miles from the University and had two self-contained classrooms per grade. The socioeconomic status of both districts was generally lower-to-middle class.

Parents of the 704 students in these grades were mailed consent forms on which they could indicate or decline consent. Of the 704 students, 612 students received parental written consent. Four of the 612 students did not participate because they moved out of the school district or had a serious learning disability. Further, sociometric data were unavailable for one student. The final sample ($N = 607$) included 144 third graders (76 girls, 68 boys; M age = 8.9 years), 140 fifth graders (76 girls, 64 boys; M age = 11.0 years), 166 seventh graders (86 girls, 80 boys; M age = 12.9 years), and 157 ninth graders (84 girls, and 73 boys; M age = 14.8 years). The sample was 87% European American, 6% African American, 2% American Indian, 1% Asian American, 1% Hispanic American, and 3% classified themselves as “other.”¹

Procedure

Questionnaires were administered in classrooms by trained research assistants. Measures were read aloud to students who followed along and responded to items. Researchers returned to schools at least once to administer questionnaires to students who were absent.

Measures

Similar to past research (e.g., Coie & Dodge, 1983; Crick, 1997; Parkhurst & Asher, 1992), youth were presented with a peer-report measure with items assessing aggression and peer acceptance. Each item was followed by a list of classmates' names. Elementary students spent their days in self-contained classrooms with about 20–30 classmates and were given a list of all participating students in their class for each item. Seventh and ninth graders changed classes during the day and could interact with any of their approximately 175 grademates. Accordingly, similar to past research with secondary school students (Parkhurst

¹The data presented here were collected as part of a larger study of peer relationships. Previous papers have been published based on the data from the larger study (Carlson & Rose, 2007; Rose, 2002; Rose, Swenson, & Carlson, 2004; Rose, Swenson, & Waller, 2004); however, none of these papers focused on mean-level gender differences in aggression or associations of aggression with peer acceptance.

& Asher, 1992; Wentzel & Caldwell, 1997), they were given lists of subsets of participating grademates for each item.

For each item, seventh- and ninth-grade youth received a randomly generated list of 30 grademates so that the number of classmates listed would be similar to that of third- and fifth-grade students. For each seventh- and ninth-grade participant, the randomly generated lists were different for each item to avoid positive or negative halo effects (Parkhurst & Asher, 1992). A computer program was used to generate the random lists so that each participant's name would appear on the lists of 30 classmates for each item and never on his or her own list.

Overt and relational aggression each were assessed with five items (Crick, 1997). To assess overt aggression, students were asked who a) hits, kicks, or punches others, b) says mean things to others to insult them or put them down, c) calls others mean names, d) pushes and shoves others around, and e) tells others that they will beat them up unless they do what they want. For each item, youth circled the names of three peers who best met the item description. Relational aggression was assessed by asking youth who a) tries to make another classmate not like others by spreading rumors about them or talking behind their backs, b) gets even by keeping a person from being in their group of friends, c) ignores others or stops talking to them, d) tells their friends they will stop liking them unless the friends do what they say, and e) keeps certain people from being in their group when it is time to do an activity. For each item, youth circled the names of three peers who best fit the item description.

Aggression was treated both continuously and categorically in analyses. To create continuous scores, participants were first given a standardized score for each overt and relational aggression item. Overt aggression scores then were the mean of the five standardized items assessing overt aggression (3rd grade $\alpha = .90$; 5th grade $\alpha = .93$; 7th grade $\alpha = .86$; 9th grade $\alpha = .84$). Relational aggression scores were the mean of the five standardized items assessing relational aggression (3rd grade $\alpha = .84$; 5th grade $\alpha = .85$; 7th grade $\alpha = .78$; 9th grade $\alpha = .81$).

As in past research (e.g., Crick & Grotpeter, 1995), the continuous scores were used to create categorical aggression groups. Participants whose scores were lower than one standard deviation above the mean for both overt and relational aggression were classified as non-aggressive. Youth who scored at least one standard deviation above the mean for relational aggression but not overt aggression were classified as relationally aggressive. Youth who scored at least one standard deviation above the mean for overt aggression but not relational aggression were classified as overtly aggressive. Youth who scored at least one standard deviation above the mean for both relational and overt aggression were assigned to a combined relational and overt aggression group. Within-subjects *t*-tests indicated that youth in the relationally aggressive group scored significantly higher on relational than overt aggression (relational aggression, $M = .89$, $SD = .13$; overt aggression, $M = .23$, $SD = .44$; $t = 9.82$, $p < .0001$) Similarly, youth in the overtly aggressive group scored higher on overt than relational aggression (overt aggression, $M = 1.00$, $SD = .14$; relational aggression, $M = .46$, $SD = .25$; $t = -15.36$, $p < .0001$).

In terms of peer acceptance, similar to past research (e.g., Parker & Asher, 1993; Rose & Asher, 1999), youth were presented with the question, "How much do you like to spend time with this person?" For each classmate, participants responded to the item on a Likert scale ranging from 1 (*I don't like to*) to 5 (*I like to a lot*). Therefore, this scale provides a continuous measure ranging from disliking to liking a lot. Each youth was given a score based on the average ratings they received from boys and a score based on the average

ratings they received from girls. These average scores were standardized within each classroom for third- and fifth-grade students and within grade for seventh- and ninth-grade students.

Results

To address the main study aims, two sets of analyses were conducted. The first tested the relations of gender with relational aggression and overt aggression. The second tested relations of relational and overt aggression with liking by girls and boys. Before the primary analyses, overlap between relational and overt aggression was tested.

Overlap Between Relational and Overt Aggression

The overlap between overt and relational aggression was first examined using the continuous variables. Relational and overt aggression were significantly correlated for the whole sample ($r = .65, p < .0001$). The correlations also were significant for girls and boys within each grade (3rd grade girls $r = .81$, boys $r = .87$; 5th grade girls $r = .73$, boys $r = .68$; 7th grade girls $r = .69$, boys $r = .79$; 9th grade girls $r = .69$, boys $r = .77$; all $ps < .0001$).

Constructing the categorical aggression groups also provided information about overlap. Using the traditional cut-offs of one standard deviation above the mean, 157 youth scored high on at least one aggression form. Of these youth, 53 scored high on both aggression forms. Of the remaining 104 youth who scored high on only one form, 62 were high on overt aggression and 42 were high on relational aggression. Using these cut-off scores, the majority of the aggressive youth scored high on only one aggression form.

However, as noted, some youth classified as being high on only one aggression form might fall just short of the cut-off for the other form. For the primary analyses, the traditional cut-offs were used in order for the results to be comparable with past studies. However, for the descriptive purpose of exploring overlap between the aggression forms, aggression groups also were formed using more conservative criteria. To be classified into the overt aggression or relational aggression group with these criteria, youth had to score at least one standard deviation above the mean on one aggression form and no greater than one half standard deviation above the mean on the other form. Using these conservative criteria, more of the aggressive youth were categorized as both relationally and overtly aggressive (116 out of 157 youth). However, over one quarter of the aggressive youth (41 youth) still were classified as being primarily relationally aggressive or overtly aggressive (24 relationally aggressive youth; 17 overtly aggressive youth).

These sets of analyses indicate notable overlap between relational and overt aggression but also demonstrate that the two forms are not redundant. This is especially clear from the descriptive analyses indicating that over one quarter of youth who were high on one aggression form scored within the “normal” range (within a half standard deviation of the mean) on the other form. Although the absolute number of youth who primarily display one aggression form may be small, the following analyses may reveal important differences between youth who primarily display one aggression form versus youth who score high on both forms.

Gender Differences in Relational and Overt Aggression

Gender differences in relational and overt aggression were first examined using the continuous scores with and without controlling for the alternate aggression form. Raw and adjusted means and corresponding effect sizes are presented in Table 1. First, a 2 (Gender) X 4 (Grade) ANOVA was conducted for relational aggression. Of interest were the gender effect and whether the effect was qualified by a Gender X Grade interaction. Non-significant

effects emerged for gender, $F(1, 599) = 1.57$, and the Gender X Grade interaction, $F(3, 599) = 2.49$. The effects were next examined in a 2 (Gender) X 4 (Grade) ANCOVA with overt aggression as a covariate. The main effect for gender became significant, $F(1, 598) = 192.63$; $p < .0001$, as did the Gender X Grade interaction, $F(3, 598) = 7.96$; $p < .0001$. Because the Gender X Grade interaction was significant, separate ANCOVAs were conducted by grade with gender as the independent variable and overt aggression as the covariate. The gender difference in relational aggression was significant in each grade, with a moderate effect in the third grade, $F(1, 141) = 23.54$, and larger effects in fifth, $F(1, 137) = 56.98$, seventh, $F(1, 163) = 42.27$, and ninth grades, $F(1, 154) = 70.65$, (all $ps < .0001$).

A 2 (Gender) X 4 (Grade) ANOVA was then conducted for overt aggression and indicated a main effect for gender, $F(1, 599) = 141.11$; $p < .0001$, with boys scoring higher than girls. The Gender X Grade interaction was nonsignificant, $F(3, 599) = 1.21$. Next the analysis was repeated as an ANCOVA with relational aggression as a covariate. The gender effect was significant, $F(1, 598) = 376.32$; $p < .0001$, and the Gender X Grade interaction became significant, $F(3, 598) = 6.66$; $p < .001$. Given that the Gender X Grade interaction was significant, ANCOVAs with gender as the independent variable and relational aggression as the covariate were conducted by grade. The gender difference was significant in each grade, with a moderate-to-large effect in third grade, $F(1, 141) = 55.62$, and large effects in fifth, $F(1, 137) = 123.78$, seventh, $F(1, 163) = 70.09$, and ninth grades, $F(1, 154) = 120.56$ (all $ps < .0001$).

Analyses next tested for gender differences in the categorical aggression groups. When cell sizes were large enough, separate chi-square analyses tested for gender differences in each aggression group. When cell sizes were small, Fisher's exact tests were used. These analyses were conducted for the entire sample and separately by grade and are summarized in Table 2.

Analyses for the entire sample revealed significant gender differences in all four groups. Girls were overrepresented in the relationally aggressive group, and boys were overrepresented in the overtly aggressive group. Boys also were overrepresented in the group high on overt and relational aggression. Girls were overrepresented in the non-aggressive group.

Analyses conducted by grade revealed no gender difference in the relationally aggressive group in third grade. However, girls were overrepresented in fifth, seventh, and ninth grades. Boys were overrepresented in the overtly aggressive group in all grades. In the previous analysis, boys were overrepresented in the group high on overt and relational aggression, but no gender differences emerged for this group for any one grade. Girls were overrepresented in the non-aggressive group in third grade, but there were no gender differences in the other grades.

Relations of Relational and Overt Aggression with Acceptance by Girls and Boys

Analyses in this section examined relations of aggression (relational and overt) with acceptance (among girls and among boys) with and without controlling for the alternate aggression form. These relations were hypothesized to differ by gender and grade. Accordingly, in analyses in which acceptance by girls or by boys was the dependent variable, significant 3-way interactions among gender, grade, and aggression would be expected. However, it is difficult to detect such higher-order interactions in non-experimental studies (Judd, McClelland, & Culhane, 1995). In fact, power analyses indicated that our study would need to include over 3,500 participants to reach 80% power for detecting small effects. Therefore, an a priori decision was made to examine the relations separately for girls and for boys.

Interactions between relational and overt aggression—Before examining associations of relational and overt aggression with acceptance, it also was of interest to test whether relational and overt aggression interacted to predict acceptance. First, a regression analysis was conducted for the girls in which acceptance by girls was predicted from grade, relational aggression, overt aggression, all two-way interactions, and the three-way interaction among grade, relational aggression, and overt aggression. Of interest were the 2-way interaction between relational and overt aggression and the 3-way interaction among relational aggression, overt aggression, and grade. This analysis was then repeated for girls with acceptance by boys as the dependent variable. Parallel regression analyses were then conducted for boys. All 2-way interactions between relational aggression and overt aggression and all 3-way interactions among relational aggression, overt aggression, and grade were nonsignificant. Therefore, in the next sections, these interaction terms were not included in analyses.

Girls' relational aggression—In this set of analyses, the association of girls' relational aggression with acceptance by girls and boys was examined without controlling for overt aggression. A regression analysis was performed in which acceptance by girls was the dependent variable and girls' relational aggression, grade, and their interaction were predictors. Of interest were the main effect of relational aggression and whether this effect was moderated by grade. Girls' relational aggression predicted lower acceptance by girls, $\beta = -.59$, $F(1, 318) = 12.11$, $p < .001$. The Relational Aggression X Grade interaction also was significant, $\beta = .07$, $F(1, 318) = 6.66$, $p < .01$. Correlations by grade between girls' relational aggression and acceptance by girls are presented in Table 3. Girls' relational aggression was related to lower acceptance by girls only in third grade. Relations were nonsignificant in the fifth, seventh, and ninth grades.

Next, analyses tested the relation between girls' relational aggression and acceptance by boys. A regression analysis was conducted with acceptance by boys as the dependent variable and girls' relational aggression, grade, and their interaction as predictors. Girls' relational aggression predicted lower acceptance by boys, $\beta = -.52$, $F(1, 318) = 11.16$, $p < .001$, and the Relational Aggression X Grade interaction was significant, $\beta = .10$, $F(1, 318) = 16.00$, $p < .0001$. Correlations by grade are presented in Table 3. Girls' relational aggression was related to lower acceptance by boys only in the third grade. The relation was not significant in the fifth grade. Interestingly, girls' relational aggression was related to *greater* liking by boys in seventh and ninth grade, with this relation reaching significance in the ninth grade.

Multi-equation regression models were then conducted by grade to test whether the associations with acceptance by girls differed from the associations with acceptance by boys. Significant differences emerged in grades three and nine. Girls' relational aggression was related to lower acceptance by both girls and boys in the third grade, but the relation was stronger for girls, $F(1, 148) = 6.70$, $p < .05$. In the ninth grade, the nonsignificant relation with acceptance by girls differed significantly from the significant association between girls' relational aggression and greater acceptance by boys, $F(1, 164) = 9.71$, $p < .01$.

These relations were then re-examined controlling for overt aggression. The previous regression predicting acceptance by girls from girls' relational aggression, grade, and their interaction was repeated with girls' overt aggression entered first into the equation as a control variable. Girls' relational aggression no longer predicted acceptance by girls, $\beta = -.24$, $F(1, 317) = 1.82$, *ns*. However, the Relational Aggression X Grade interaction was again significant, $\beta = .06$, $F(1, 317) = 5.43$, $p < .05$. Partial correlations between girls' relational aggression and acceptance by girls (controlling for overt aggression) are presented by grade

in Table 3. When overt aggression was not controlled, girls' relational aggression in third grade was related to lower acceptance by girls. This relation became nonsignificant when overt aggression was controlled. Consistent with the results when overt aggression was not controlled, the relations were not significant in fifth, seventh, and ninth grades when overt aggression was controlled.

The regression analysis predicting acceptance by boys from girls' relational aggression, grade, and their interaction was then repeated with girls' overt aggression as a control variable. The main effect of girls' relational aggression was no longer significant, $\beta = -.29$, $F(1, 317) = 2.96$, *ns*, but the Relational Aggression X Grade interaction remained significant, $\beta = .09$, $F(1, 317) = 14.59$, $p < .001$. Partial correlations between girls' relational aggression and acceptance by boys (controlling for overt aggression) are presented in Table 3. When overt aggression was not controlled, girls' relational aggression in the third grade was related to lower acceptance by boys. However, the relation was nonsignificant when overt aggression was controlled. Consistent with the finding when overt aggression was not controlled, the relation in the fifth grade remained non-significant. When overt aggression was not controlled, the relation was positive in the seventh and ninth grades and significant in the ninth grade. When overt aggression was controlled, the positive correlations were significant in both grades.

The multi-equation regression analyses testing for differences in relations girls' relational aggression with liking by girls versus boys were repeated controlling for overt aggression. A significant difference now emerged only in the ninth grade. The correlation between girls' relational aggression and greater acceptance by boys differed from the nonsignificant correlation between girls' relational aggression and acceptance by girls, $F(1, 162) = 5.55$, $p < .05$.

Girls' overt aggression—Analyses next examined the relation of girls' overt aggression with acceptance by girls and boys without controlling for relational aggression. A regression analysis was conducted in which acceptance by girls was predicted from girls' overt aggression, grade, and their interaction. Girls' overt aggression predicted lower acceptance by girls, $\beta = -.69$, $F(1, 318) = 17.06$, $p < .0001$. The Overt Aggression X Grade interaction also was significant, $\beta = .06$, $F(1, 318) = 5.29$, $p < .05$. Correlations by grade are presented in Table 3. Girls' overt aggression was related to lower acceptance by other girls in the third, fifth, and ninth grades. The relation was in the same direction but did not reach significance in seventh grade.

The regression analysis was then repeated with acceptance by boys as the dependent variable. Girls' overt aggression predicted lower acceptance by boys, $\beta = -.39$, $F(1, 318) = 5.90$, $p < .05$. The Overt Aggression X Grade interaction also was significant, $\beta = .05$, $F(1, 318) = 3.88$, $p < .05$. Correlations by grade are presented in Table 3. Girls' overt aggression was related to lower acceptance by boys only in third grade.

Multi-equation regression analyses conducted by grade tested for differences in the relations with liking by girls versus boys. In third grade, girls' overt aggression was related to lower acceptance by both girls and boys, but the relation was stronger for girls, $F(1, 148) = 12.62$, $p < .001$. In the fifth and ninth grades, girls' overt aggression was related to lower acceptance by girls but not boys, and these relations also significantly differed, $F(1, 148) = 4.81$, $p < .05$, and, $F(1, 164) = 3.86$, $p = .05$, respectively.

Analyses next re-examined these relations while controlling for relational aggression. The regression predicting acceptance by girls from girls' overt aggression, grade, and their interaction was repeated with girls' relational aggression entered first as a control variable.

Girls' overt aggression remained a significant predictor of lower acceptance by girls, $\beta = -.81$, $F(1, 317) = 19.62$, $p < .0001$. The Overt Aggression X Grade interaction also remained significant, $\beta = .06$, $F(1, 317) = 5.71$, $p < .05$. Partial correlations between girls' overt aggression and acceptance by girls (controlling for relational aggression) are listed in Table 3. When relational aggression was not controlled, overt aggression was related to lower acceptance by girls in the third, fifth, and ninth grades. These relations remained significant in grades three and nine. In the fifth grade, the relation was still negative but did not reach significance.

Then, the previous regression predicting acceptance by boys from girls' overt aggression, grade, and their interaction was repeated with girls' relational aggression entered first as a control variable. Girls' overt aggression remained a significant predictor of lower acceptance by boys, $\beta = -.62$, $F(1, 317) = 13.32$, $p < .001$. The Overt Aggression X Grade interaction also remained significant, $\beta = .06$, $F(1, 317) = 4.84$, $p < .05$. Partial correlations between girls' overt aggression and acceptance by boys (controlling for relational aggression) are presented in Table 3. When relational aggression was not controlled, girls' overt aggression was related to lower acceptance by boys in the third grade. When relational aggression was controlled, this relation remained significant. In addition, the relation between ninth-grade girls' overt aggression and lower acceptance by boys became significant.

Multi-equation regressions testing for differences in relations with liking by girls versus boys were repeated controlling for relational aggression. Consistent with results when relational aggression was not controlled, girls' overt aggression in the third grade was more strongly associated with lower acceptance by girls than by boys when relational aggression was controlled, $F(1, 146) = 5.49$, $p < .05$. No differences between liking by girls versus boys emerged in fifth, seventh, or ninth grades.

Boys' relational aggression—The analyses described for girls were conducted for boys. However, the multi-equation regression analyses conducted by grade (with and without controlling for overt aggression) indicated no differences in the associations of boys' relational aggression with acceptance by girls versus boys. Therefore, composite acceptance scores were created by collapsing across ratings from girls and boys and used in analyses.

Analyses first tested associations of boys' relational aggression with peer acceptance (collapsed across ratings from boys and girls) without controlling for overt aggression. A regression analysis was conducted in which acceptance was predicted from boys' relational aggression, grade, and their interaction. Boys' relational aggression predicted lower acceptance, $\beta = -.91$, $F(1, 281) = 14.82$, $p < .001$. The Relational Aggression X Grade interaction also was significant, $\beta = .13$, $F(1, 281) = 12.46$, $p < .001$. Correlations by grade are presented in Table 3. Boys' relational aggression was associated with lower acceptance in third and fifth grades. In the seventh and ninth grades, the correlations were nonsignificant.

The relations were then re-examined controlling for overt aggression. The regression predicting acceptance from boys' relational aggression, grade, and their interaction was repeated with overt aggression entered first as a control variable. Boys' relational aggression remained a significant predictor of lower acceptance, $\beta = -.68$, $F(1, 280) = 7.13$, $p < .01$, and the Relational Aggression X Grade interaction remained significant, $\beta = .12$, $F(1, 280) = 12.25$, $p < .001$. Partial correlations between boys' relational aggression and acceptance (controlling for overt aggression) are presented in Table 3. Although boys' relational aggression was related to lower acceptance in the third and fifth grades when overt aggression was not controlled, the relations were nonsignificant when overt aggression was

controlled. When overt aggression was not controlled, the correlation in seventh grade was not significant. However, when overt aggression was controlled, boys' relational aggression actually was related to greater peer acceptance. The correlation in the ninth grade was nonsignificant whether or not overt aggression was controlled.

Boys' overt aggression—Multi-equation regressions conducted by grade also indicated no differences in the relations of boys' overt aggression with acceptance by girls versus boys (with and without controlling for relational aggression). Therefore, the relations with overt aggression also were examined with acceptance scores that collapsed across girls' and boys' ratings.

A regression analyses was first conducted in which acceptance was predicted from boys' overt aggression, grade, and their interaction. Boys' overt aggression predicted lower acceptance, $\beta = -.97$, $F(1, 281) = 15.52$, $p < .001$, and the Overt Aggression X Grade interaction was significant, $\beta = .12$, $F(1, 281) = 10.24$, $p < .01$. Correlations by grade are presented in Table 3. Boys' overt aggression was significantly associated with lower acceptance only in third grade. The associations were not significant in the fifth, seventh, and ninth grades.

The relations were then re-examined while controlling relational aggression. A regression analysis was conducted in which acceptance was predicted from boys' overt aggression, grade, and their interaction. Boys' overt aggression again significantly predicted lower acceptance, $\beta = -1.06$, $F(1, 280) = 15.92$, $p < .0001$, and the Overt Aggression X Grade interaction remained significant, $\beta = .12$, $F(1, 280) = 10.37$, $p < .01$. Partial correlations of boys' overt aggression with acceptance (controlling for relational aggression) are presented in Table 3. The correlation remained significant and negative in the third grade and non-significant in the fifth and ninth grades. The correlation in the seventh grade was not significant when relational aggression was not controlled, but became significant and negative when relational aggression was controlled.

Discussion

The current research makes contributions regarding gender and relational aggression. Results indicate that taking into account developmental stage and overlap with overt aggression help clarify mixed findings regarding gender differences in relational aggression. Results also indicate that important information regarding relations of aggression with peer acceptance may have been masked in studies that created acceptance scores across ratings from girls and boys and that did not test the relations with and without controlling for the alternate aggression form.

Overlap Between Relational and Overt Aggression

Although relational and overt aggression were highly correlated in this study as in past studies, analyses examining gender differences in aggression both with and without controlling for the alternate aggression form revealed that teasing apart the unique versus overlapping variance associated with each aggression form was critical for understanding gender differences in aggression and implications for peer acceptance. Despite high correlations between the aggression forms, the descriptive categorical groups formed using criteria that were more conservative than those typically used indicated that some youth displayed one aggression form at high levels and the other in a more normal range. Results from continuous analyses regarding relational aggression that emerged while controlling for overt aggression provided information about youth who were primarily relationally aggressive. Similarly, findings for overt aggression that emerged while controlling for relational aggression provided information about youth who were primarily overtly

aggressive. Although youth who displayed primarily one aggression form were small in number, the current findings indicate that they deserve our attention. As will be discussed, these youth differed from youth who displayed both aggression forms in their likelihood of being girls versus boys and in their experiences in the peer domain.

Mean-Level Gender Differences in Relational and Overt Aggression

Past research as well as the current findings indicate that boys are more overtly aggressive than girls (Archer, 2004; Coie & Dodge, 1998). However, findings regarding gender differences in relational, social, and indirect aggression are mixed (Underwood, 2003). Consistent with the conclusion of the Archer (2004) meta-analysis, the current study indicated that age influences the likelihood of detecting gender differences when considering peer reports of relational aggression. The results illustrate within a single study that the gender difference in relational aggression intensified at adolescence. It is a common assumption (e.g., reflected in the media) that gender differences in relational aggression favoring girls increase at adolescence. Yet, empirical tests of this within single studies were lacking. The present study fills that important gap in the literature.

The present study also helps to make sense of mixed findings by demonstrating that gender differences in relational aggression are more likely to emerge when overt aggression is controlled. In the current study, the continuous and the categorical approaches to controlling for overt aggression provided converging results. Consistent with past research (Crick, 1997; Crick & Grotpeter, 1995), the present findings indicate that although girls may not be more likely than boys to display both relational and overt aggression, girls were more likely to be primarily relationally (and not overtly) aggressive. In fact, when aggression groups were formed using conventional cut-offs, nearly 98% of the group who scored high on relational but not overt aggression were girls. Supplementary analyses that were not presented earlier indicated that 95% of the relationally aggressive group formed using the more conservative criteria were girls.

The question remains as to *why* youth who are primarily relationally aggressive are likely to be girls. Girls may be more concerned with maintaining at least an appearance of niceness (Underwood, 2003) and so limit aggression to acts that are less likely to draw attention (Bjorkqvist et al., 1992). Another possibility is that it is clear to girls how damaging relational aggression can be (Crick, 1995; Paquette & Underwood, 1999), and they recognize that relational aggression can be effective for hurting others even in the absence of overt aggression.

Associations of Girls' and Boys' Relational and Overt Aggression with Acceptance

Findings also provided new information regarding the implications of girls' and boys' aggression for acceptance by considering associations separately for acceptance by girls versus boys and by conducting the analyses with and without controlling for the alternate aggression form. In terms of younger girls, relational aggression was related to lower peer acceptance by both girls and boys in the third grade when overt aggression was not controlled. As predicted, this association was stronger for acceptance by girls. However, the relations with lower acceptance by both girls and boys became non-significant when overt aggression was controlled. This suggests that relational aggression was not associated with lower acceptance by girls or boys when displayed in the absence of overt aggression. Although relationally aggressive acts are hurtful to victims (Crick & Grotpeter, 1996), the negative evaluations they elicit from the overall peer group may be less widespread as compared to overt aggression because relationally aggressive acts can be more subtle and ambiguous than overt aggression.

Moreover, among older girls, relational aggression was even linked with greater acceptance by boys. Girls' relational aggression was not related to acceptance among other girls in the fifth, seventh, and ninth grades (whether or not overt aggression was controlled). However, girls' relational aggression was related to greater acceptance by boys in the ninth grade when overt aggression was not controlled. When overt aggression was controlled, girls' relational aggression predicted greater liking by boys in both the seventh and ninth grades. As girls become increasingly invested in establishing relationships with boys, they may relationally aggress to increase their access to and status with boys (see Crick & Rose, 2000; Werner & Crick, 1999). This aggression is likely aimed at girls who are competitors for boys' attention. In adolescence, girls also have especially advanced social perspective-taking skills (Bosacki & Astington, 1999; Schonert-Reichl & Beaudoin, 1998), which may enable them to aggress toward other girls in ways that do not draw boys' attention to their negative behavior. Notably, increasing motivation to be well-liked by boys and increasingly advanced social-cognitive skills may help to explain why gender differences favoring girls were found to increase at adolescence.

More generally, these results fit with recent findings indicating that aggression in peer contexts may be adaptive in some ways (Hawley, Little, & Rodkin, 2007). For example, aggression is related to indicators of social competence (Vaughn, Vollenweider, Bost, Azria-Evans, & Snider, 2003), including being perceived as "cool" or "popular" (LaFontana & Cillessen, 2002; Prinstein & Cillessen, 2003; Rodkin, Farmer, Pearl, & Van Acker, 2000; Rose, Swenson, & Waller, 2004). These relations seem to be especially strong among adolescents and for relational (rather than overt) aggression (Cillessen & Rose, 2005).

In contrast to the findings for relational aggression, girls' overt aggression was uniquely related to lower peer acceptance. Relations were strongest among younger children. In third grade, girls' overt aggression was related to lower acceptance among girls and boys, and the relation was strongest for acceptance by girls. These results suggest that girls judge overtly aggressive girls most harshly and speak to the importance of separately assessing acceptance by girls versus boys. Also, these relations with lower acceptance by girls and boys held when relational aggression was controlled suggesting a unique, damaging effect of overt aggression. Among fifth-, seventh-, and ninth-grade youth, when relational aggression was not controlled, girls' overt aggression also was related to lower acceptance by girls. These relations were weaker compared to the third grade but did reach significance in grades five and nine. In contrast, girls' overt aggression was not related to acceptance by boys in these grades when relational aggression was not controlled. Although these findings suggest that older girls also may judge overtly aggressive girls most harshly, when relational aggression was controlled, no differences emerged in the relations of girls' overt aggression with acceptance by girls versus boys.

Despite the significant differences in relations of girls' aggression with liking by girls versus boys, boys' aggression was not differentially related to acceptance by girls versus boys. However, similar to the findings for girls, boys' findings also indicated that relational aggression was not uniquely associated with lower acceptance. Although relational aggression was related to lower acceptance in the third and fifth grades when overt aggression was not controlled, the relations became non-significant when overt aggression was controlled. Also, in the seventh grade, the association of relational aggression with peer acceptance actually became significant and positive when overt aggression was controlled. It is not clear why this effect emerged only for seventh grade. However, the result is consistent with the broader pattern of findings for girls and boys, which suggests that relational aggression in isolation was not damaging to acceptance.

Also consistent with the findings for girls, unique relations of boys' overt aggression with lower acceptance emerged. Boys' overt aggression was related to lower acceptance in the third grade even when relational aggression was controlled. Among older boys, overt aggression was not related to acceptance when relational aggression was not controlled. However, when relational aggression was controlled, overt aggression was related to lower acceptance in the seventh grade. Again, it is not clear why this effect was only significant in seventh grade. However, the result is consistent with the broader pattern of findings for girls and boys in indicating that overt aggression had a unique negative relation with lower acceptance.

Limitations and Future Directions

Despite the contributions of the current research, there also are limitations and corresponding future directions. Although the current results contribute to our understanding of gender differences in relational aggression, the study did not examine *why* girls are especially likely to have a primarily relational aggressive style. Despite the many positive correlates of having sophisticated social-cognitive abilities (e.g., empathy; Eisenberg & Strayer, 1987), future research may reveal that adolescent girls' relatively advanced social-cognitive skills (Bosacki & Astington, 1999; Schonert-Reichl & Beaudoin, 1998) contribute to their ability to relationally aggress in sophisticated ways that make it unnecessary for them to also overtly aggress.

Also, the current study considered the relation of aggression with acceptance in isolation, and future work could consider variables that may influence this relation. For example, although the association of adolescent girls' relational aggression with acceptance by boys was significant, the magnitude of the relation was not large. Recent research indicates that aggressive youth who possess characteristics that are valued by the peer group (e.g., being attractive, having a good sense of humor) have higher peer status than aggressive youth without these characteristics (Vaillancourt & Hymel, 2006). Likewise, the relation of adolescent girls' relational aggression and liking by boys may be stronger for girls who possess other desirable characteristics.

Future research could also incorporate other indices of peer status. Being perceived as "popular" is related to both aggression (e.g., Cillessen & Mayeux, 2004; Rose et al., 2004) and to being well liked by peers (e.g., LaFontana & Cillessen, 2002; Parkhurst & Hopmeyer, 1998). Therefore, there may be important interrelations among aggression (relational and overt), acceptance (by girls and boys), and being perceived as popular (by girls and boys).

Obtaining converging results in studies employing variants of the current peer assessments also would increase confidence in the results. In the current study, acceptance was assessed with a roster-and-rating scale method (e.g., Asher & Hymel, 1981; Ladd, 1981) in which youth rated how much they liked peers. Future research could test whether similar results emerge with liked-most and liked-least peer nominations (Coie, Dodge, & Coppotelli, 1982). Also, the current study involved a limited nominations procedure in which youth were asked to nominate three peers for each aggression item. However, the unlimited nominations approach has been found to have desirable measurement properties (Terry, 2000). Replicating the current findings with the unlimited nominations approach would be beneficial.

Additionally, because the social context differed for youth in elementary school versus in middle or high schools, the roster of classmates presented for the peer assessment items differed for younger youth (who were presented with a roster of their self-contained classroom) and older youth (who were presented with a random sample of grademates). Replicating the current findings in a school district with small grade populations (e.g., < 50

students per grade) in which the size of the social context does not change between elementary and secondary schools would further support the current findings (see Rose et al., 2004, for a related discussion).

Last, an additional limitation is that only concurrent relations were assessed. The findings generally were discussed in regards to how aggression may impact acceptance. However, the relations may be bi-directional. For example, it was proposed that girls' relational aggression may contribute to their being well-liked by boys. Nevertheless, it also is possible that girls who are well-liked by boys wield social power, which enables them to relationally aggress effectively. This possibility is consistent with other research indicating that some aggressive youth are socially central and dominant (e.g., Rodkin et al., 2000; see Hawley et al., 2007)

Contributions and Applications

In closing, despite limitations, the results make important contributions to our understanding of the role of gender in regards to relational aggression. The present study contributes to our understanding regarding gender differences in relational, social, and indirect aggression by demonstrating that gender differences in relational aggression (at least as assessed by peer reports) are more likely to emerge among adolescents and when overt aggression is controlled. The present findings also caution us against collapsing across acceptance scores from girls and boys, especially when considering girls' aggression. Doing so in the present study would have masked the important findings that girls judge aggressive girls most harshly and that adolescent girls' relational aggression is actually related to being better liked by boys. The findings also speak to the importance of considering associations of relational and overt aggression with acceptance with and without controlling for the alternate aggression form.

The applied implications of the results also are significant. Although girls were more likely to relationally aggress in the absence of overt aggression, boys were as likely as girls to engage in high levels of both relational and overt aggression. Given the negative impact of relational aggression on victims (Crick & Grotpeter, 1996), intervening with relational aggressors is important. The current findings highlight the importance of continuing to study relational aggression among both girls and boys and of incorporating boys as well as girls in prevention and intervention efforts aimed at decreasing relational aggression.

Moreover, the results suggest that relational aggressors' receptiveness to prevention and intervention efforts may depend on their gender, age, and whether they are overtly aggressive. Relational aggressors who were younger and engaged in overt aggression were most likely to be more poorly accepted by peers. Accordingly, these youth may be relatively motivated to change their behavior if they are led to understand that refraining from aggression may increase their social standing. In contrast, youth who engage primarily in relational aggression and generally refrain from overt aggression may have little motivation to change. This may be especially true of adolescent girls given that their relational aggression is associated with greater peer acceptance among boys. Consequently, deterring these youth from relational aggression may be especially difficult, and developing methods to do so is a vital direction for future studies.

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Table 1
Means and Adjusted Means By Gender and Effect Sizes for Relational Aggression and Overt Aggression

Relational Aggression						Overt Aggression					
Means		Effect size	Adj. Means	Boys	Girls	Effect size	Means	Boys	Girls	Effect size	Adj. Means
	Boys										
Whole sample	.04 ^a	-.04 ^a	.11	.29 ^a	-.33 ^b	.83	-.33 ^a	.37 ^b	-.95	-.36 ^a	.41 ^b
3rd	-.10 ^a	.11 ^a	-.28	.18 ^a	-.20 ^b	.49	-.33 ^a	.37 ^b	-.94	-.25 ^a	.28 ^b
5th	.07 ^a	-.09 ^a	.21	.37 ^a	-.44 ^b	1.05	-.41 ^a	.48 ^b	-1.20	-.45 ^a	.54 ^b
7th	.06 ^a	-.06 ^a	.16	.26 ^a	-.28 ^b	.74	-.27 ^a	.29 ^b	-.75	-.32 ^a	.34 ^b
9th	.11 ^a	-.13 ^a	.32	.36 ^a	-.41 ^b	1.02	-.33 ^a	.38 ^b	-1.00	-.40 ^a	.46 ^b

Notes. Means with different superscripts differed significantly from one another in ANOVAs in which the other form of aggression was not controlled. Adjusted means with different superscripts differed from one another in ANCOVAs in which the other form of aggression was controlled.

Table 2

Number and Percent of Girls and Boys in Each Categorical Aggression Group

	Relational Aggression			Overt Aggression			Relational and Overt Aggression			Non-Aggressive		
	Girls	Boys	X ²	Girls	Boys	X ²	Girls	Boys	X ²	Girls	Boys	X ²
Whole sample (N = 607)	6.75% (n = 41)	.16% (n = 1)	— ****	.82% (n = 5)	9.39% (n = 57)	56.10 ****	3.29% (n = 20)	5.44% (n = 33)	5.47 [*]	42.17% (n = 256)	31.96% (n = 194)	10.31 ^{**}
3rd (n = 144)	1.39% (n = 2)	0.00% (n = 0)	— **	0.00% (n = 0)	8.33% (n = 12)	— ****	4.17% (n = 6)	6.25% (n = 9)	1.10	47.22% (n = 68)	32.64% (n = 47)	9.25 ^{**}
5th (n = 140)	7.14% (n = 10)	0.00% (n = 0)	— **	.71% (n = 1)	11.43% (n = 16)	— ****	4.29% (n = 6)	3.57% (n = 5)	.00	42.14% (n = 59)	30.71% (n = 43)	1.92
7th (n = 166)	6.63% (n = 11)	.60% (n = 1)	— **	1.81% (n = 3)	7.83% (n = 13)	— ****	2.41% (n = 4)	6.63% (n = 11)	—	40.96% (n = 68)	33.13% (n = 55)	2.30
9th (n = 157)	11.46% (n = 18)	0.00% (n = 0)	— ****	.64% (n = 1)	10.19% (n = 16)	— ****	2.55% (n = 4)	5.10% (n = 8)	—	38.85% (n = 61)	31.21% (n = 49)	.56

Notes. The percents presented are the row percentages for girls and for boys. When cell sizes were large enough, chi-square analyses were performed and chi-square values are presented. In cases in which cell sizes were too small, Fisher's exact tests were conducted. There is no test statistic for Fisher's exact tests and so only *p* values are provided (and a dash is presented in place of the chi-square value).

*
p < .05.

**
p < .01.

p < .001.

p < .0001.

Table 3
Bivariate and Partial Correlations of Relational and Overt Aggression with Liking by Girls and Boys

	Girls' Relational Aggression				Girls' Overt Aggression			
	Liking by Girls		Liking by Boys		Liking by Girls		Liking by Boys	
	Bivariate	Overt Aggression Controlled	Bivariate	Overt Aggression Controlled	Bivariate	Relational Aggression Controlled	Bivariate	Relational Aggression Controlled
3rd	-.47*** ^a	.10 ¹	-.32** ^b	.07 ¹	-.64*** ^a	-.50*** ¹	-.44*** ^b	-.32** ²
5th	-.20 ^a	-.01 ¹	-.03 ^a	.06 ¹	-.26** ^a	-.17 ¹	-.10 ^b	-.11 ¹
7th	.05 ^a	.15 ¹	.20 ^a	.25* ¹	-.09 ^a	-.17 ¹	.04 ^a	-.14 ¹
9th	-.07 ^a	.14 ¹	.23** ^b	.34** ²	-.25** ^a	-.27* ¹	-.02 ^b	-.25* ¹
Boys' Relational Aggression								
Boys' Overt Aggression								
Liking Collapsed Across Girls and Boys								
Liking Collapsed Across Girls and Boys								
	Bivariate	Overt Aggression Controlled	Bivariate	Relational Aggression Controlled	Bivariate	Relational Aggression Controlled	Bivariate	Relational Aggression Controlled
3rd	-.38***	.01			-.45***		-.25*	
5th	-.32*	-.24			-.21		.00	
7th	.12	.36***			-.13		-.36**	
9th	.09	.04			.08		.02	

Notes. Values in the Bivariate column are Pearson correlation coefficients. Other values are partial correlations controlling for either overt or relational aggression. When liking by girls versus boys differed significantly, the values were marked with different superscripts (letters for bivariate correlations and numbers for partial correlations).

*
p < .05.

**
p < .01.

p < .001.

p < .0001