

Overt and Relational Aggression in Adolescents: Social–Psychological Adjustment of Aggressors and Victims

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Examined the relative and combined associations among relational and overt forms of aggression and victimization and adolescents' concurrent depression symptoms, loneliness, self-esteem, and externalizing behavior. An ethnically diverse sample of 566 adolescents (55% girls) in Grades 9 to 12 participated. Results replicated prior work on relational aggression and victimization as distinct forms of peer behavior that are uniquely associated with concurrent social–psychological adjustment. Victimization was associated most closely with internalizing symptoms, and peer aggression was related to symptoms of disruptive behavior disorder. Findings also supported the hypothesis that victims of multiple forms of aggression are at greater risk for adjustment difficulties than victims of one or no form of aggression. Social support from close friends appeared to buffer the effects of victimization on adjustment.

Until recently, research on childhood aggression toward peers focused almost exclusively on children's physical or overt acts of aggressive behavior, such as hitting, pushing, or threatening to beat up a peer. Findings from this work have indicated that overt aggression is more prevalent for boys compared with girls, and this form of aggression is a stable and potent predictor of school-age children's social–psychological adjustment (for reviews, see Coie, Dodge, & Kupersmidt, 1990; Parker & Asher, 1987). Contributing substantially to this prior work, recent research has provided compelling evidence for a relational form of aggressive behavior. In contrast to overt aggression, which includes acts meant to harm a peer physically, relational aggression uses a child's relationship with another teen, or their friendship status, as a way of inflicting social harm (e.g., purposefully excluding a peer from social activities, threatening to withdraw one's friendship, telling rumors or gossip; Crick, 1995, 1997; Galen & Underwood, 1997). Recent findings indicate that relational aggression is as prevalent among girls as boys and appears to

uniquely contribute to children's concurrent and future social–psychological maladjustment for both sexes (Crick, 1996; Crick & Grotpeter, 1995; Galen & Underwood, 1997). As noted by Crick (1995), this work has directed needed attention to the study of aggression in girls and to alternate forms of aggressive behavior that are strongly associated with maladjustment.

In contrast to research on aggressive children, relatively few studies have examined the victims of aggression, particularly victims of relational aggression (Crick & Grotpeter, 1996). However, extant work on peer victimization indicates that like peer aggressors, victims of peer aggression also experience significant levels of psychological distress. For instance, studies on victims of overt aggression have revealed that this form of victimization concurrently and prospectively predicts depression, loneliness, and externalizing problems (Boivin, Hymel, & Bukowski, 1995; Hodges, Boivin, Vitaro, & Bukowski, 1999; Olweus, 1992; Vernberg, 1990). This is consistent with theory suggesting that victimized children either may interpret these negative peer experiences as critical appraisals of the self leading to internalized distress (e.g., depression, loneliness, low self-worth) or may develop pejorative attitudes toward their peers, subsequently leading to self-control problems, anger, and perhaps impulsive or oppositional behavior to retaliate against peers (Crick & Bigbee, 1998; Crick, Grotpeter, & Rockhill, 1999). In the few studies that examined social–psychological correlates of relational victimization, findings suggested that this form of victimization also is associated with depression, loneli-

We thank Dana Damiani and Beth Vellis for their assistance in data collection and the members of the New England Social Development Consortium for comments on an earlier draft of this article.

This work was supported in part by National Institute of Mental Health National Research Service Award No. F32–MH11770 awarded to Mitchell J. Prinstein.

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ness, and self-restraint difficulties and appears to contribute uniquely to school-age children's distress even after the effects of overt victimization (Crick & Grotpeter, 1996) and overt and relational aggression (Crick & Bigbee, 1998) are controlled.

To date, relational aggression and victimization rarely have been studied among adolescents, although these ideas seem particularly relevant during this developmental stage for several reasons. First, the increased amount of time adolescents spend with their peers and the increased importance placed on peer support during this developmental period suggest that relational forms of aggression and victimization may be more salient (Parker, Rubin, Price, & DeRosier, 1995). Cliques also become more prominent features of adolescent peer relationships, and these typically have more sharply drawn boundaries than the less selective chumships of middle childhood (Brown, 1989). These boundaries may be drawn and maintained through relational aggression, including ostracism, exclusion, or character assassination. Second, with increases in physical strength and access to weapons during adolescence, overt physical aggression carries greater risk of serious injury or legal sanctions (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989). Relational aggression may partially replace physical aggression as a safer means of expressing disdain, displeasure, or anger. Also, cognitive advances in adolescence, such as increased capacity for planning and greater understanding of sarcasm and innuendo, may allow the more refined and hurtful use of relational aggression (Creusere, 1999; Winner, 1988). Finally, self-disclosure in friendships increases during adolescence, perhaps increasing opportunities to use private, personal information as a weapon when friendships fail (Parker et al., 1995).

Therefore, an initial goal of this research was to replicate and extend prior work on relational aggression by examining whether this form of aggressive behavior would emerge as a distinct construct from overt aggression for adolescents. Similarly, the delineation of two forms of victimization—relational and overt—also was examined. As demonstrated in prior work with elementary school age children, it was hypothesized that relational forms of aggression and victimization would be revealed as distinct factors from overt aggression and victimization. We further hypothesized that adolescents would report higher frequencies of relational compared with overt aggression and victimization, indicating that this form of aggression is relatively more common in this age group. Additionally, in accordance with research on younger children, adolescent boys were expected to report more frequent experiences with overt forms of aggression and victimization; however, relational aggression and victimization were expected to be reported at comparable levels by adolescent boys and girls (Crick & Grotpeter, 1996).

To address these hypotheses, an existing measure with established psychometric properties was adapted to appropriately capture forms of overt and relational aggression and victimization in adolescence (Vernberg, Jacobs, & Hershberger, 1999). Consistent with past research on peer victimization, a self-report assessment was used in this study. As noted in prior work also using this approach (e.g., Boulton & Underwood, 1992; Crick & Grotpeter, 1996), the use of self-report allowed us to examine whether adolescents could perceive two distinct forms of peer aggression and victimization and also allowed adolescents to report victimization experiences that may occur outside of the school setting or covertly in school and therefore may not be fully reported by other informants (Crick & Bigbee, 1998). This latter point was particularly important given the more subtle or covert forms of peer aggression and victimization likely exhibited by adolescents compared with younger children. Recent research has revealed no evidence of bias for self- versus peer-reported frequencies of overt or relational victimization among distressed children and good support for the correspondence between self-reported victimization and the identification of victims by external reporters (Crick & Bigbee).

A second and main goal of this research was to examine the unique contributions of relational aggression and victimization in predicting adolescents' concurrent social-psychological adjustment. Two sets of hypotheses were proposed. First, we anticipated that relational aggression would be uniquely associated with concurrent adolescent depression symptoms, loneliness, self-esteem, and externalizing behavior after we controlled for overt aggression. Similarly, relational victimization would be significantly associated with these areas of social-psychological adjustment after we controlled for overt victimization, thus supporting the importance of relational forms of aggression and victimization in adolescence. A second hypothesis, rarely examined in prior work, was the relative contribution of aggression and victimization given that each has been linked with similar deleterious consequences. We hypothesized that when forms of aggression and victimization were considered together, aggressive behavior, particularly adolescents' overt aggression, would be associated most closely with concurrent externalizing difficulties (i.e., symptoms of oppositional defiant disorder or conduct disorder), whereas indicators of internalizing distress (i.e., depression, loneliness, and global self-worth) would be linked most closely to both forms of peer victimization and relational forms of peer aggression. We further predicted gender differences in these associations. Specifically, we hypothesized that for girls, both relational and overt aggression toward others would be associated with concurrent adjustment difficulties, whereas only overt aggression toward others would be related to adjustment difficulties for boys, as has been demonstrated in past work (Crick &

Grottpeter, 1995). For victimization, it was hypothesized that both relational and overt forms of victimization would contribute to social-psychological adjustment for both boys and girls (Crick & Grottpeter, 1996). Such a finding would extend prior work on relational aggression and girls' adjustment in younger children (e.g., Crick & Bigbee, 1998) and would extend findings for victimization by examining the adjustment of adolescents who are relationally victimized.

A third goal of this investigation was to examine the co-occurrence of multiple forms of aggression or multiple forms of victimization. In other words, are adolescents who are overtly and relationally aggressive toward peers at more serious risk compared with adolescents who use only one form of aggression? Similarly, are adolescents who are victimized by peers both relationally and overtly more psychologically maladjusted than those victimized through one form of aggression alone? We examined these intuitive but rarely examined hypotheses in this investigation, as well as gender differences in these relationships.

A fourth goal was to examine close friend social support as a potential buffer from the negative psychological consequences of peer victimization (Hodges et al., 1999; Vernberg, 1990). This is consistent with theory regarding the importance of close interpersonal relationships with peers as a crucial factor for adolescents' psychological development (e.g., Hartup, 1996; Sullivan, 1953) and a factor that can reduce the negative effects of stressful experiences, such as peer victimization (Cohen & Willis, 1985). Vernberg (1990) found that early adolescents with a close friend were able to maintain an adequate sense of social acceptance despite overt victimization, whereas victimization predicted declines in perceived social acceptance over time for isolated adolescents. More recent work with school-age children has revealed a significant association between overt peer victimization and externalizing behavior only among friendless children (Hodges et al., 1999). This effect was attenuated by the presence of a close friend, presumably due to the increased emotional support available to victimized children who have a close friend (Hodges et al.). This study more specifically investigates this hypothesis by examining close friend social support as a potential buffer in the context of relational victimization; this has not been examined previously for adolescents.

Method

Participants

Participants included 566 adolescents (253 boys, 44.7%; 313 girls, 55.3%) in Grades 9 (27.2%), 10 (25.4%), 11 (23.8%), and 12 (23.4%) from a high school in a small city in southern New England. Adolescents came from ethnically diverse backgrounds

(21.8% Caucasian, 60.3% Hispanic, 10.6% African American, 7.3% other or mixed ethnicity) within a city of fairly homogeneous socioeconomic status (median family income = \$33,679; Census of Population and Housing, 1990). According to school records, approximately 54% of students were eligible for free or reduced lunch; approximately 21% of students' parents did not finish high school, and 16% of parents graduated from college.

Procedures

Data were collected as part of this school district's health screening curriculum to serve as a baseline for a school district intervention program. All data were collected anonymously; no identifying information was obtained with the exception of adolescents' sex, grade, and ethnicity. Parents of all schoolchildren ($n = 706$) were notified of the school data collection 3 weeks before the administration of questionnaires so that they could decline their adolescents' participation, if desired. Less than 1% of parents ($n = 5$) declined their adolescents' participation. Additionally, adolescents were assured of the confidentiality of their responses and of their voluntary participation (96% of adolescents agreed to participate; $n = 26$ refusals). With these few exceptions, all students present on the 4 days of testing ($n = 32$ absent) completed the packet of questionnaires ($n = 643$; 91.1% of total school population).

Measures were completed through group administration with an adult-to-adolescent ratio between 1:5 and 1:10, and all adolescents were able to complete the packet of questionnaires in the allotted time (approximately 1 hr). Nevertheless, we were cautious about the validity of these data, and each protocol was checked thoroughly and discarded for inconsistencies or missing responses. Data were excluded for 12% of participants ($n = 77$) who were missing data on one of the primary measures in this study; these participants' responses on related measures did not indicate any significant differences from the full sample. A final sample of 566 adolescents with complete data was included in subsequent analyses.

Measures

Overt and relational aggression/victimization. A revised version of the Peer Experiences Questionnaire (Vernberg et al., 1999) was used in this study to assess adolescents' aggression and victimization. Five items were revised, created, or added from prior instruments (Lopez, 1998) to reflect developmentally appropriate forms of relational aggression and victimization in adolescents. The final questionnaire included nine items, each presented in two versions. For the aggressor ver-

sion of each item, adolescents were asked to indicate how often (1 = *never*, 2 = *once or twice*, 3 = *a few times*, 4 = *about once a week*, 5 = *a few times a week*) they engaged in each behavior toward another teen (e.g., “I chased a teen like I was really trying to hurt him or her”). The victim version of each item asked how often each behavior had been directed toward the informant (e.g., “A teen chased me like he or she was really trying to hurt me”). The order of presentation of the victim and aggressor versions was counterbalanced.

Psychometric support for this measure, including a stable factor structure and adequate internal consistency, is presented subsequently. The initial version of the Peer Experiences Questionnaire has demonstrated good validity in related studies with children and adolescents. Significant correlations between self-reported victimization and parent-reported victimization (r s between .36 and .39, $p < .001$) have been observed in two separate samples (Champion, 1997; Vernberg, Fonagy, & Twemlow, 2000). This level of parent–adolescent agreement is comparable to that typically found in this age range (Achenbach, McConaughy, & Howell, 1987). In addition, self-reported aggression and victimization on the Peer Experiences Questionnaire was significantly correlated with peer reports of the same constructs (r s between .34 and .40, $p < .001$). Test–retest reliability over a 6-month interval has ranged between .48 and .52.

Depression symptoms. The Center for Epidemiological Studies–Depression (CES–D) is a widely used 20-item measure for the assessment of depression symptoms in both normative and clinical samples of adolescents (Hogue & Steinberg, 1995; Roberts, Andrews, Lewinsohn, & Hops, 1990). Adolescents respond to items by using a 4-point Likert-type scale ranging from 1 (*never*) to 4 (*most of the time*) to indicate how often they have experienced each depressive symptom. A mean across all items, with appropriate reverse coding, was computed to produce a total score of depressive symptoms. Good psychometric data exist for use of the CES–D with adolescents, including high internal consistency ($>.87$) and a stable factor structure when readministered 1 month later (Roberts et al., 1990). Cronbach’s alpha in our sample was .92.

Loneliness. The UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) is a reliable, 20-item instrument widely used to assess loneliness in adolescence. Responses are on a 4-point Likert-type scale, with some items positively worded and reverse coded, and a mean score across all items is computed. Internal consistency ($\alpha = .94$), test–retest reliability, and concurrent and discriminant validity support were provided by Russell et al. (1980). This measure demonstrated good internal consistency in our sample as well ($\alpha = .86$).

Self-esteem. Harter’s (1988) Self-Perception Profile for Adolescents (SPPA) assesses adolescents’ self-perceptions in six domains (e.g., romantic appeal, friendship competence, etc.). In this study, the Global Self-Worth subscale was included as a measure of self-esteem. This subscale contains six items; each item is coded with a score of 1 through 4, and a mean across all six items was computed with higher scores reflecting greater self-esteem. Harter (1988) reported good internal consistency for the SPPA (Cronbach’s $\alpha = .74-.93$), as well as considerable support for the validity of these subscales. In our sample, this subscale also demonstrated good internal consistency ($\alpha = .81$).

Externalizing symptoms. The Diagnostic Interview Schedule for Children (DISC) Predictive Scales (DPS; Lucas et al., 1999) are statistically derived checklist versions of the National Institute of Mental Health (NIMH)–DISC semistructured diagnostic interview (Shaffer et al., 1996). Each screener scale of the DPS includes 3 to 10 items from the original NIMH–DISC that have demonstrated the highest item–total correlation with the full NIMH–DISC administration and maximized sensitivity and specificity using receiver operating characteristic curves. The DPS was derived from a nationwide sample of more than 1,200 children and adolescents and was cross-validated on two additional samples. In this study, DPS questions from the Oppositional Defiant Disorder and Conduct Disorder modules (16 questions total, each using a 3-point scale) were combined to form a composite mean score of externalizing behavior. Internal consistency (α) in this sample for these items was .88.

Close friend social support. The Close Friend subscale of the Social Support Scale for Children and Adolescents (Harter, 1989) was used to assess adolescent perceptions of social support from close friends (six items). Each question is scored on a 4-point scale, and a mean is computed across all six items, with higher scores reflecting greater perceived support. Harter (1989) provided extensive data to support the reliability and validity of this instrument. Internal consistency in this sample was .83.

Results

Factor Analyses of the Revised Peer Experiences Questionnaire (RPEQ)

A principal components factor analysis using varimax rotation was conducted for the nine items of the RPEQ. Separate factor analyses were conducted for the victim and aggressor versions of this questionnaire, which provided an opportunity to examine the stability of this factor structure for peer victimization and peer

aggression. As indicated in Table 1, this analysis yielded a two-factor solution (eigenvalues > 1) for both versions, with expected items loading onto factors of overt and relational forms of aggression or victimization and no significant cross-loadings. These factor analyses were repeated for each sex; there were no meaningful differences in the factor structure on either version of this measure. Subscales were computed as means of the items that loaded onto each factor, yielding four subscales: Overt Aggression (four items, Cronbach's $\alpha = .80$), Relational Aggression (five items, $\alpha = .77$), Overt Victimization (four items, $\alpha = .79$), and Relational Victimization (five items, $\alpha = .76$). Significant correlations were revealed between overt and relational aggression ($r = .52, p < .001$) and between overt and relational victimization ($r = .51, p < .001$), replicating prior work (Crick & Grotpeter, 1996).

Frequencies of Overt and Relational Aggression and Victimization—Overall and Gender Differences

To examine the hypotheses that relational forms of aggression and victimization would be more prevalent than overt aggression and victimization for adolescents, and that boys would report greater levels of overt aggression and victimization than girls, a repeated measures factorial multivariate analysis of variance (MANOVA) was conducted. Within-subjects factors included two forms of aggression (i.e., relational and overt) and two forms of victimization, and sex was included as a between-subject factor, thus producing a $2 \times 2 \times 2$ design. Significant main effects for relational versus overt aggression, Wilks's $\Lambda(1, 564) = 4.26, p < .05$,

relational versus overt victimization, Wilks's $\Lambda(1, 564) = 93.63, p < .001$, and all two-way interactions with sex, Wilks's $\Lambda(1, 564) = 4.46\text{--}24.14$, all $p < .05$, were qualified by a significant three-way interaction, Wilks's $\Lambda(1, 564) = 8.18, p < .01$. In sum, significant findings revealed that boys reported significantly higher levels of overt aggression and overt victimization than did girls; however, boys and girls reported comparable levels of relational aggression and relational victimization (see Table 2 for means). In addition, for both boys and girls, relational forms of victimization were reported with greater frequency than overt forms of victimization. Boys reported the use of overt and relational forms of aggression at a comparable frequency, whereas girls reported the use of relational aggression significantly more than overt forms of aggression. Yet, the absolute magnitude of these statistically significant differences was relatively small ($\eta^2 = .07\text{--}.14$), suggesting that these gender differences may not be substantial.

Because this was an ethnically diverse sample, ethnic differences in the frequencies of overt and relational aggression and victimization also were examined. MANOVA and regression analyses revealed no significant multivariate or univariate differences for any of the four subscales by ethnicity, and no significant sex by ethnicity interactions were revealed.

Unique Associations Among Relational Aggression and Victimization and Adolescents' Social-Psychological Adjustment

Hierarchical linear regressions were conducted to examine whether relational aggression added significant explained variance in adolescents' concurrent de-

Table 1. Factor Analyses of the Revised Peer Experiences Questionnaire—Victim and Aggressor Versions

Subscale and Item ^a	Victim Version		Aggressor Version	
	Factor I	Factor II	Factor I	Factor II
% Variance explained	28.60	28.39	29.37	28.32
Overt				
A teen hit, kicked, or pushed me in a mean way.	.79	(.19)	.85	(.12)
A teen threatened to hurt or beat me up.	.77	(.25)	.78	(.20)
A teen chased me like he or she was really trying to hurt me.	.75	(.21)	.77	(.21)
A teen grabbed, held, or touched me in a way I didn't like.	.73	(.14)	.65	(.25)
Relational				
A teen left me out of what he or she was doing.	(.20)	.80	(.22)	.74
A teen left me out of an activity or conversation that I really wanted to be included in.	(.16)	.75	(.29)	.67
A teen did not invite me to a party or other social event even though he or she knew that I wanted to go.	(.21)	.73	(.12)	.72
A teen I wanted to be with would not sit near me at lunch or in class.	(.15)	.65	(.09)	.77
A teen gave me the silent treatment (did not talk to me on purpose).	(.36)	.47	(.38)	.54

Note: Factor loadings greater than .40 are shown.

^aWording for the victim version is listed in this table. For the aggressor version, pronouns were reversed (e.g., "I hit, kicked, or pushed another teen in a mean way," "I threatened to hurt or beat up another teen," etc.).

Table 2. Means, Standard Deviations, and Observed Ranges for Primary Variables

	Boys		Girls		Total		Range
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Overt aggression	1.63	.78	1.27	.52	1.43	.67	1.00–5.00
Relational aggression	1.64	.72	1.57	.57	1.60	.64	1.00–5.00
Overt victimization	1.43	.62	1.29	.49	1.35	.55	1.00–5.00
Relational victimization	1.60	.67	1.56	.56	1.58	.61	1.00–5.00
Depression	1.74	.47	1.89	.56	1.83	.52	1.00–3.70
Loneliness	1.87	.46	1.80	.47	1.83	.46	1.00–3.60
Self-esteem	3.07	.70	3.03	.78	3.05	.74	1.00–4.00
Externalizing symptoms	1.60	.44	1.46	.39	1.53	.42	1.00–3.00
Close friend social support	3.22	.62	3.43	.66	3.34	.65	1.00–4.00

pression symptoms, loneliness, self-esteem, and externalizing behavior above and beyond the contribution of overt aggression. Similarly, we examined the role of relational victimization after controlling for overt victimization. For both sets of analyses, overt forms of aggression (or victimization) were entered on an initial step, followed by relational aggression (or victimization) on a second step to reveal incremental explained variance. R^2 and $r^2\Delta$ are listed in Table 3 for each dependent measure of social–psychological adjustment, analyzed separately for boys and girls (following Crick & Bigbee, 1998). A conservative experiment-wise Bonferonni correction (.05/24 regression analyses) of $p < .002$ was applied.

As shown in Table 3, relational aggression explained a significant portion of variance associated with externalizing symptoms for girls, after we controlled for overt aggression. This finding was even more pronounced when we examined the unique contribution of relational forms of victimization after controlling for overt victimization. For boys, relational victimization added significantly to the prediction of all three areas of internalizing adjustment, most notably for boys' concurrent self-esteem, for which relational victimization explained nearly as much unique variance as overt aggression. Consistent with prior work, relational victimization appeared to be especially associated with girls' concurrent adjustment. For all outcomes measures, with the exception of girls' externalizing behavior, relational victimization explained a significant portion of unique variance, after we controlled for overt victimization. Indeed, compared with overt victimization, relational victimization explained more than twice as much variability in girls' concurrent loneliness and self-esteem (see Table 3).

Relative Contributions of Overt and Relational Aggression and Victimization to Adolescents' Social–Psychological Adjustment

By examining the relative contribution of both overt and relational forms of aggression and victimization in

multiple regressions, it was possible to determine which of these variables was most strongly associated with each domain of social–psychological adjustment after we controlled for their shared variability. These results are summarized in Table 4, which lists the semipartial correlation coefficients and the standardized regression coefficients (β) for all four subscales of the RPEQ when entered together as a block in one step of the multiple regression. By squaring and summing the semi-partial correlations for each of the four predictors, it was also possible to calculate the shared variability among predictors that was associated with each measure of social–psychological adjustment and the unique variance that was added by each predictor beyond the shared variability. As shown in the table, separate regressions were conducted for each outcome variable (i.e., depression, self-esteem, loneliness, and externalizing behavior). Initially, regression equations included interaction terms to test for sex differences in these associations, which were followed by regressions conducted separately by sex. Because many of these interactions were significant, only these latter results are presented in Table 3, and significant sex interactions are noted subsequently.

Several consistent findings across sex were revealed. First, the models accounted for a sizable portion of the variance in each measure of social–psychological adjustment. As a block, the forms of aggression and victimization accounted for 9% to 23% of the variance in boys' social–psychological adjustment and 3% to 17% in girls' adjustment. In addition to this shared variability among the predictors, several significant associations for each individual predictor emerged, explaining additional variability in adolescent adjustment. Indeed, the combination of unique and shared variability (i.e., total R^2 ; see Table 4) accounted for 11% to 34% of the variance in adolescent adjustment, which increased to 14% to 42% explained variance after we controlled for unreliability by using LISREL.¹

¹LISREL allows the researcher to examine path associations while controlling for error variance in predictor and outcome variables.

Table 3. Unique Contribution of Relational Aggression and Victimization to the Prediction of Concurrent Social–Psychological Adjustment

	Aggression		Victimization	
	Step 1: R^2 for Overt	Step 2: $r^2\Delta$ for Relational	Step 1: R^2 for Overt	Step 2: $r^2\Delta$ for Relational
Boys				
Depression symptoms	.07*	.02	.28*	.04*
Loneliness	.01	.03	.13*	.06*
Self-esteem	.04	.01	.07*	.06*
Externalizing symptoms	.19*	.01	.10*	.02
Girls				
Depression symptoms	.06*	.01	.08*	.09*
Loneliness	.00	.00	.05*	.12*
Self-esteem	.01	.00	.03	.08*
Externalizing symptoms	.27*	.03*	.09*	.00

* $p < .001$.**Table 4.** Relative Contributions of Overt and Relational Aggression and Victimization to the Prediction of Concurrent Social–Psychological Adjustment

	Overt Aggression	Relational Aggression	Overt Victimization	Relational Victimization	Total R^2	Total Shared Variance
Boys						
Depression symptoms	.03 (.04)	.09 (.12)	.27 (.35)*	.18 (.23)	.34*	.23
Loneliness	-.09 (-.11)	.11 (.14)	.14 (.18)	.22 (.29)*	.20*	.11
Self-esteem	-.03 (-.04)	-.07 (-.08)	-.04 (-.06)	-.21 (-.28)	.14*	.09
Externalizing symptoms	.25 (.32)*	.08 (.09)	.13 (.17)	.07 (.09)	.25*	.16
Girls						
Depression symptoms	.11 (.14)	.02 (.02)	.09 (.10)	.26 (.29)*	.17*	.08
Loneliness	-.01 (-.02)	-.09 (-.10)	.08 (.09)	.35(.40)*	.18*	.04
Self-esteem	-.05 (-.07)	.02 (.02)	-.02 (-.03)	-.27 (-.31)*	.11*	.03
Externalizing symptoms	.32 (.39)*	.17 (.20)*	.08 (.10)	.00 (.00)	.31*	.17

Note: Numbers are semi-partial correlations (and betas).

* $p < .001$.

Of the predictors that accounted for unique variability, relational victimization was the most consistent contributor of unique variance to the prediction of boys' and girls' concurrent loneliness and low self-esteem, after we partialled out the shared variability among the other predictors (i.e., overt forms of victimization, overt aggression, and relational aggression). The findings also revealed that for both boys and girls, overt aggression was uniquely associated with externalizing behavior.

Significant gender interactions were also revealed ($p < .05$), suggesting that aggression and victimization are differentially related to adjustment for boys and girls. First, relational aggression toward peers was associated with externalizing behavior for girls but not for boys. Second, overt victimization was associated with depression symptoms for boys but not for girls.

Social–Psychological Adjustment of Adolescents Who Are Victims of Relational and Overt Aggression

To examine the social–psychological adjustment of adolescents who are victims of both relational and overt aggression, and to test the effect of sex, factorial MANOVAs were conducted. Although this analytic strategy required the dichotomization of continuous variables, thereby reducing variability, the use of MANOVAs did allow for powerful testing of the roles of aggression, victimization, and sex in one analysis. Replicating a procedure used in prior work (e.g., Crick & Bigbee, 1998), groups of relational aggressors and victims were created for adolescents with frequencies of relational victimization or overt victimization one standard deviation above the mean. This identified four distinct groups of adolescents: relational victims only (boys, $n = 22$; girls, $n = 31$), overt victims only (boys, $n = 23$; girls, $n = 21$), both relational and overt victims (boys, $n = 23$; girls, $n = 13$), and neither relational nor overt victims (boys, $n = 185$; girls, $n = 248$). Chi-square analyses revealed a marginally significant difference in the sex distribution across these four victimization

With error variance accounted for, LISREL can derive more accurate path coefficients and estimates of explained variance between constructs by eliminating extraneous error variance in each variable.

groups, $\chi^2(3) = 7.29, p = .06$, suggesting that boys were more likely than girls to be both relational and overt victims.

A 2 (sex) \times 4 (victimization group) MANOVA conducted on the set of four dependent variables of social-psychological adjustment revealed a significant multivariate main effect for victimization group, Wilks's $L(12, 1366) = 10.20, p < .0001$, and for sex, Wilks's $\Lambda(4, 516) = 4.99, p < .0001$, but no significant interaction effect, Wilks's $\Lambda(12, 1366) = .52, ns$ (see Table 5 for means). Overall, the results consistently revealed that adolescents who were both relational and overt victims had higher levels of depression, externalizing behavior, and loneliness compared with adolescents victimized either relationally or overtly only, followed by adolescents who were not victimized (see Table 5).

Social-Psychological Adjustment of Adolescents Who Are Relational and Overt Aggressors

We identified four groups of aggressors (i.e., relational aggressor only, overt aggressor only, both relational and overt aggressor, and neither relational nor overt aggressors) by using the strategy described previously. Chi-square analyses revealed that boys were significantly more likely than girls to be overt aggressors only or both overt and relational aggressors, $\chi^2(3) = 22.11, p < .0001$ (see Table 6). A 2 (Sex) \times 4 (Aggression Group) MANOVA was conducted to examine whether adolescents who were both relationally and overtly aggressive experienced more social-psychological maladjustment than teens who used only one or no form of aggression. Significant multivariate main effects for sex, Wilks's $\Lambda(4, 516) = 7.80, p < .0001$, and aggression group, Wilks's $\Lambda(12, 1366) = 10.20, p < .0001$, were qualified by a significant interaction effect, Wilks's $\Lambda(12, 1366) = 2.40, p < .01$. This interaction effect was significant at a univariate level for adolescent depression, $F(3, 519) = 3.11, p < .05$; loneliness, $F(3, 519) = 4.36, p < .01$; and externalizing behavior, $F(3, 519) = 2.75, p < .05$. As shown in Table 6, adolescents

who were overt aggressors only or both overt and relational aggressors had significantly higher levels of externalizing behavior than other adolescents. Additionally, within the group of adolescents who were overt aggressors only, girls had significantly greater depression and lower self-esteem than boys. For adolescents who were relational aggressors only and both relational and overt aggressors, boys had significantly greater loneliness than girls.

Buffering Effect of Close Friend Social Support for Peer Victimization and Adolescents' Social-Psychological Adjustment

The final goal of this study was to examine a buffering effect of social support from a close friend in the relation between peer victimization and social-psychological adjustment. Because close friend social support was a negatively skewed variable (see Table 2 for means and standard deviations), a dummy variable was computed for adolescents' close friend social support to divide those with scores ≤ 1 SD below the mean (0) and ≥ 1 SD above the mean (1), thus identifying adolescents with or without substantial close friendship support. By using this subset of the original sample ($n = 299$), we conducted a hierarchical multiple regression including overt and relational forms of victimization and the dummy-coded close friend support variable on an initial step, and two interaction terms (Overt Victimization \times Close Friend Support; Relational Victimization \times Close Friend Support) on a second step. The interaction terms added significantly to the regression model predicting externalizing behavior ($r^2\Delta = .02, p < .05$), and a significant interaction between close friend support and relational victimization was revealed ($\beta = -.49, p < .01$) for this model. Correlation coefficients were computed to explore the nature of this interaction effect, and these results revealed that for adolescents with low close friend social support, relational victimization was significantly associated with externalizing behavior ($r = .39, p < .001$). In contrast, for adolescents with high levels of close friend social support, there was

Table 5. Means and Standard Deviations of Social-Psychological Adjustment for Adolescents Who Are Relationally and/or Overtly Victimized

	Neither Relational nor Overt		Relational Only		Overt Only		Both Relational and Overt	
	M	SD	M	SD	M	SD	M	SD
Depression	1.73	.48 ^a	2.00	.48 ^b	2.06	.53 ^b	2.39	.63 ^c
Self-esteem	3.16	.70 ^a	2.71	.82 ^b	2.82	.73 ^b	2.51	.71 ^b
Loneliness	1.73	.42 ^a	2.05	.45 ^b	2.05	.48 ^{bc}	2.30	.47 ^c
Externalizing	1.47	.39 ^a	1.54	.41 ^{ab}	1.69	.47 ^b	1.94	.40 ^c

Note: Row means with different superscripts are significantly different (Tukey honestly significant difference, $p < .05$).

Table 6. Means and Standard Deviations of Social-Psychological Adjustment for Adolescents Who Are Relationally and/or Overtly Aggressive

	Boys						Girls									
	Neither Relational nor Overt (n = 188)		Relational Only (n = 16)		Overt Only (n = 28)		Both Relational and Overt (n = 21)		Neither Relational nor Overt (n = 272)		Relational Only (n = 21)		Overt Only (n = 11)		Both Relational and Overt (n = 9)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Depression	1.67	.44^a	1.92	.57 ^{ab}	1.87	.42^{ab}	2.09	.57 ^b	1.84	.54^a	1.93	.54 ^a	2.61	.49^b	2.27	.45 ^{ab}
Self-esteem	3.14	.68	2.74	.82	3.05	.61	2.67	.68	3.05	.78	3.09	.72	2.60	.51	2.67	.95
Loneliness	1.81	.44 ^a	2.16	.35^{ab}	1.81	.44 ^{ab}	2.13	.56^b	1.78	.46	1.81	.53	2.10	.63	1.66	.37
Externalizing	1.51	.42^a	1.66	.38 ^{ab}	1.84	.30 ^b	2.03	.41 ^b	1.40	.33^a	1.59	.35 ^a	1.98	.51 ^b	2.30	.33 ^b

Note: Within sex, row means with different superscripts are significantly different. Means in bold represent significant gender differences within aggression group.

no significant relation between relational victimization and externalizing behavior ($r = .12, ns$), thus supporting a buffering hypothesis for the effect of close friend social support. Separate analyses conducted by sex revealed no meaningful differences in this interaction effect.

Discussion

This study is among the first to examine relational and overt forms of aggression in adolescents and to study associations between both aggression and victimization in predicting adolescents' concurrent social-psychological adjustment. Results from this study offer an important extension to the growing literature on overt and relational forms of aggression and victimization and provide preliminary evidence to support several new hypotheses regarding relational aggression and victimization as important contributors to adolescent social-psychological adjustment.

Several findings from previous work on relational aggression and victimization in elementary school-age children were replicated in this study on adolescents. First, as with younger children, adolescents were successfully able to discriminate between relational and overt forms of aggression as well as relational and overt forms of victimization. Moreover, the correlations between these forms of aggression and of victimization suggested that these are distinct constructs (Crick & Bigbee, 1998; Crick, Casas, & Ku, 1999) and may be important to assess for adolescents.

Also as demonstrated in prior work, overt forms of aggression and victimization appeared to be more prevalent among boys compared with girls, whereas relational forms were reported with comparable frequencies across sexes. This is consistent with the gender patterns of aggression and victimization reported in several prior studies in middle childhood (e.g., Crick & Grotpeter, 1996). However, examination of effect sizes in this study suggested that the actual gender differences in the frequency of overt aggression and overt victimization were not substantial. This is likely due to the overall low frequencies of overt aggression reported by adolescents in this sample, which has been observed previously during adolescence compared with middle childhood (Cairns et al., 1989).

Prior work also has suggested that relational aggression and victimization contribute uniquely to the prediction of concurrent and future social-psychological difficulties, particularly for girls (Crick & Bigbee, 1998). The results from this study partially replicated these results for adolescents. Despite relatively low reported levels of adolescent aggression and victimization, the results revealed that these social experiences were important contributors to understanding adolescent adjustment, with significant findings indicating

that relational aggression explained a significant proportion of variance in girls' externalizing behavior. More notably, however, relational victimization explained variability in social-psychological adjustment after we controlled for associations with overt victimization and the shared variability between overt and relational forms of victimization. As indicated in prior research, the role of relational victimization, compared with overt victimization, was substantial in relation to girls' internalizing outcomes (i.e., depression, loneliness, self-esteem).

In addition to this important extension of past results on children's relational aggression and victimization to a diverse group of adolescents, a main goal of this study was to examine the relative associations among relational and overt forms of aggression and victimization with concurrent psychological adjustment, which was particularly important given that both aggression and victimization have been linked with similar adjustment outcomes. In analyses conducted to examine these relative contributions, findings consistently revealed that after controlling for the shared variability among these constructs, adolescents' aggression toward their peers was associated with greater externalizing symptoms. However, this overall effect was qualified by potentially important gender differences. For example, although girls' reports of their own relational aggression toward peers explained additional variance in externalizing symptoms, this was not found for boys. Externalizing symptoms measured here were drawn from diagnostic criteria for oppositional defiant disorder (ODD) and conduct disorder (CD), and these findings suggest that perpetrating relational aggression toward peers (e.g., telling rumors, excluding peers from activities), along with overt aggression, is a notable concomitant of these disruptive behavior disorders for adolescent girls but not for boys. Inquiry regarding an adolescent's use of relational aggression may be important in clinical assessments of girls who present with overt aggression and other disruptive behaviors and also may be a critical focus of interventions.

In contrast to the findings on externalizing behavior and forms of peer aggression, the findings indicated that adolescents who were the targets of peers' aggression, particularly through relational victimization, also reported higher levels of internalizing symptoms compared with other teens. This was true for both boys and girls after we controlled for variance shared by other RPEQ subscales. This supports the view that relational victimization is troubling to many adolescents regardless of sex and is a feature associated with higher levels of depression symptoms, higher levels of loneliness, and lower global self-worth. For boys, but not for girls, overt victimization also was associated with depression symptoms, which is consistent with past work on boys' overt victimization. Thus, the results supported the general idea that relational victimization may contrib-

ute to adolescents' subjective distress, and overt victimization, which is reported with higher frequency for boys, also contributes to boys' adjustment.

These concurrent associations also allow for at least two alternate interpretations. First, rather than the unidirectional prediction of adjustment difficulties from aggression and victimization, these factors may mutually contribute to one another. This transactional model suggests that victimization indeed may predict concurrent and prospective psychological adjustment (Crick, 1996; Vernberg, 1990) but also that adolescents experiencing adjustment difficulties may be more vulnerable to subsequent victimization by peers (Crick & Bigbee, 1998; Parker et al., 1995; Vernberg, 1990). Similarly, peer aggression may be exacerbated by adjustment difficulties and contribute to future maladjustment. Second, it is possible that adolescents with social-psychological adjustment difficulties are more likely to perceive peers' behavior as aggressive and thus report higher levels of victimization (Lochman & Dodge, 1994; Quiggle, Garber, Panak, & Dodge, 1992). This social-information processing perspective also suggests a transactional model, given that prior negative peer experiences may have contributed to the development of this cognitive bias (Crick, Grotpeter, & Rockhill, 1999), which subsequently potentiates future negative peer experiences. Overall, these findings are consistent with each of these models of peer aggression, peer victimization, and adjustment.

It was also of interest to examine whether adolescents who exhibited co-occurring relational and overt forms of aggression or reported both relational and overt forms of victimization experienced more adjustment difficulties than the perpetrators or victims of one form of aggression alone, because this question rarely has been examined and never before has been investigated for adolescents. Indeed, the findings consistently indicated that the most severely maladjusted adolescents were best identified by assessing both relational and overt forms of aggression and victimization. Adolescents who were victimized by peers through both relational and overt aggression had higher levels of depression, loneliness, and externalizing behavior compared with adolescents who were victims of either relational or overt aggression alone. It would be interesting to assess the sources of victimization, to better understand whether these adolescents who are victimized through both overt and relational means are in fact targeted by multiple groups of aggressors who use different strategies of victimization or by one set of peers with multiple forms of aggression in their arsenal. The results from this study suggested that some teens who are aggressive use both relational and overt means and are significantly more likely to be boys.

Among aggressive adolescents, teens who used gender non-normative forms of aggression appeared to be at somewhat heightened risk for maladjustment (Crick,

1997). For instance, overt aggression is often closely associated with boys and may be considered atypical when exhibited by girls. Consistent with this idea, and with prior results on younger children (Crick, 1997), overtly aggressive girls in this sample accordingly had lower self-esteem and more depressive symptoms than overtly aggressive boys. Similarly, boys who used relatively high levels of relational aggression (a characteristic typically associated with girls), either exclusively or in conjunction with overt aggression, had higher levels of loneliness than relationally aggressive girls. In sum, teachers and clinicians may be guided by two aspects of these findings. First, assessment of aggressive adolescents should include an examination of both relational and overt forms of aggression; and second, teens' use of aggression that is stereotypically gender nonnormative may be a good marker of internalized distress.

The final goal of this investigation was directed specifically toward intervention efforts by examining the buffering role of close friendship support in the context of relational victimization. We hypothesized that social support within the context of a close friendship may be an active mechanism responsible for the finding that friendless, victimized children are more likely to experience distress than victimized children who have a close friend. In support of this hypothesis, our findings indicated that high levels of close friendship support mitigated the association between relational victimization and social-psychological maladjustment, specifically ODD/CD symptoms. These findings corroborate prior results on the importance of close friendships as a protective factor for youth otherwise vulnerable to adjustment difficulties (Hartup, 1996; Hodges et al., 1999). Thus, adolescents perhaps would be well advised to solicit support from their close friends to cope with relational victimization. However, this strategy may prove especially difficult when both relational victimization and social support occur within the context of the same friendship.

In sum, this investigation provides an important extension of prior work on relational aggression and victimization by examining these constructs in a sample that is different in ethnic composition and developmental period than has been included in prior work. This study also offers new insight into the relative and combined effects of overt and relational aggression and victimization on social-psychological adjustment. Future work would benefit by addressing some of the limitations of this investigation. For instance, although it was of interest in this study to examine adolescents' perceptions of overt and relational forms of aggression and victimization, future work may also include peers' reports of these behaviors. The use of exclusively self-report data in this investigation allowed for the possibility that significant associations were due to shared method variance, which could make it difficult to rule out a ten-

dency for distressed teens to overreport the frequency of their aggressive behavior or victimization from peers. Although this is a significant issue that should be addressed in future work, the results from this study provided some evidence that this effect may not have unduly affected the study findings. First, we selected a measure that has demonstrated good correspondence to external informants' reports of aggression and victimization and is similar in format to measures that have revealed no significant reporting bias (Crick & Bigbee, 1998). Second, the findings revealed discriminant associations, in that not all subscales were significantly intercorrelated in regression analyses, as would likely be the case if method variance or bias was predominantly responsible for significant associations. Moreover, because it is unlikely that a reporting bias would exist for only a specific subset of the sample (e.g., for boys but not for girls), analyses examining group differences, gender effects, and moderating variables were less likely to be affected by a possible bias. Last, entering variables as a block in multiple regression procedures provided some statistical control of possible method variability. By examining the unique associations between aggression and victimization predictors after their shared variability with each outcome was partialled, we could consider relationships after controlling for common shared variance. Nevertheless, this issue remains an important limitation, and future work would benefit from the use of multiple reporters when identifying overt and relational aggressors and victims.

Another important issue for future work in this area will be to obtain longitudinal data that would further clarify the direction of effect between social-psychological adjustment and relational aggression and victimization and, in particular, to examine possible reciprocal associations. Most interestingly, longitudinal work may benefit by focusing specifically on developmental junctures during which increases in aggression and victimization are most likely to identify critical periods of psychological risk.

The examination of relational aggression and victimization within an ethnically diverse sample in this study allowed for an important extension of past research, given that prior work has so rarely included substantial proportions of participants of color. The results revealed no differences in the frequencies of aggression or victimization across ethnic groups or significant differences in the associations among aggression, victimization, and adjustment. This finding may have been influenced by the exceptional diversity and integration of the school from which these data were collected. Replication studies based in multiple schools or in districts with a defined minority group may reveal different findings. Subsequent investigators may wish to examine whether some forms of victimization may be targeted specifically toward minority or majority groups. Further investigations also may examine

whether there exist qualitatively different forms of aggression perpetrated by teens within the same ethnic group, compared with aggression toward a member of a different ethnic group, and how these intraethnic and interethnic victimization experiences may differentially impact adjustment.

Future work would benefit from increased attention to theoretical models that will begin to explicate the manner in which relational forms of aggression and victimization develop, the process by which they lead to subsequent adjustment difficulties, and the associated psychosocial factors that also contribute to similar outcomes. This would provide an important extension and elaboration to research over the past half-decade that, along with this study, has supported the importance of relational aggression and victimization for children and adolescents across development, for boys and girls, and for samples of ethnically and financially diverse youth (Crick, 1996; Crick et al., 1999; Werner & Crick, 1999). This work also would benefit from investigating children and adolescents from both normative and clinically referred samples to better examine aggression, victimization, and adjustment across a broader range of severity than has been included in prior studies on relational aggression and victimization.

Overall, this study suggested that relational forms of aggression and victimization are distinct constructs among adolescents and may be particularly relevant for this developmental stage compared with overt behaviors. The findings also suggested that, when examining adolescents' psychological adjustment, researchers should consider overt forms of aggression and victimization in conjunction with relational aggression and victimization as well as social support from close friends. Identification of adolescents who are relationally aggressive or relationally victimized will be important for understanding varied social-psychological adjustment outcomes.

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Manuscript received June 30, 2000

Final revision received February 1, 2001