

Normative Beliefs and Relational Aggression: An Investigation of the Cognitive Bases of Adolescent Aggressive Behavior

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The relations between normative beliefs about different forms of aggression and corresponding aggressive behaviors were investigated in 2 studies of adolescents. In Study 1, we revised an instrument designed to assess normative beliefs about aggression to include beliefs about the acceptability of relational aggression, and we examined the psychometric properties of the instrument. In Studies 1 and 2, the unique associations of normative beliefs about relational and physical aggression with self-reported relational and physical aggression were examined. Findings across both studies revealed that beliefs-behavior associations were specific to aggression forms. In other words, beliefs about relational aggression were uniquely associated with engagement in relationally aggressive acts, whereas beliefs about physical aggression, but not relational aggression, contributed unique information about adolescents' level of physical aggression. No gender effects were found. Results are discussed within a social-cognitive framework, and implications are explored for future prevention and intervention efforts to reduce aggressive behaviors.

KEY WORDS: aggression; social cognition; adolescence.

INTRODUCTION

Recent research has identified a relationally oriented form of aggression in which harm is inflicted through the damage and manipulation of peer relationships, as opposed to behaviors that harm through physical damage (Bjorkqvist *et al.*, 1992; Cairns *et al.*, 1989; Crick and Grotpeter, 1995; Galen and Underwood, 1997). Examples of what Crick and colleagues call *relational aggression* include malicious gossip, social exclusion, and threats to

withdraw friendship (Crick *et al.*, 1996). Widespread interest in the study of relational aggression and the similar constructs of social and indirect aggression has developed in light of evidence that, in stark contrast to physical aggression, relational aggression is highly salient in females' social interactions beginning in early childhood. Moreover, relational aggression is significantly associated with social and psychological maladjustment during childhood, adolescence, and young adulthood (Crick and Grotpeter, 1995; Prinstein *et al.*, 2001; Rys and Bear, 1997; Werner and Crick, 1999). Research on relational aggression has significantly increased our understanding of girls' adjustment by demonstrating that it contributes unique information, beyond that contributed by physical aggression, to the prediction of social status, internalizing difficulties, and externalizing problems (see Crick *et al.*, 1999 for a review).

Very few longitudinal investigations of relational aggression have been carried out to date, however initial evidence indicates that intraindividual differences in relational aggression are moderately stable and comparable to

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those for physical aggression over 6-month, 1-year, and 3-year intervals (Crick, 1996; Zimmer-Gembeck *et al.*, 2003). Because research on relational aggression is still in its early stages, the mechanisms that contribute to the development, maintenance, and exacerbation of relational aggression have only begun to be investigated. Given that relationally aggressive children have been shown to become increasingly rejected, withdrawn, anxious, depressed, delinquent, and aggressive over the course of middle childhood (Crick *et al.*, 2004; Zimmer-Gembeck *et al.*, 2003), such information is greatly needed to develop effective research-based prevention and intervention programs targeting relational aggression.

Social-Cognitive Bases of Aggression

One promising line of work in this area involves the study of the social-cognitive bases of relational aggression. Crick and her colleagues have applied a social information-processing (SIP) model of children's social adjustment to relational aggression (Crick and Dodge, 1994). According to this model, children's aggressive behavior is the outcome of on-line processing of social information at several steps, including encoding and interpretation of social cues, selection of goals, and the access and evaluation of potential behavioral responses. For example, consider a child who is walking down the hallway at school and encounters 2 peers whispering and laughing in her direction. The child's response in this situation is hypothesized to depend on how she encodes and interprets available information in the immediate social context, such as the expressions of emotion on the peers' faces, and how she accesses and evaluates potential actions. In this scenario, 1 child may encode nonhostile emotion cues, interpret the peers' actions as benign (e.g., one child is relating a humorous story to the other child), and decide that ignoring the peers' behavior would be the most appropriate action. Another child may interpret the peers' behavior as malicious (e.g., they are laughing at me), experience anger, and decide that verbally insulting the peers is the most appropriate behavioral recourse.

Although only a few studies of social information-processing and relational aggression have been conducted, to date, available evidence suggests that relationally aggressive children are likely to attribute hostile intent to peers in social conflicts involving ambiguous threats to their acceptance by friends or the peer group (Crain, 2002; Crick, 1995; Crick *et al.*, 2002). In contrast, physically aggressive children exhibit hostile attribution biases in instrumental provocation situations (e.g., the child is bumped from behind and spills milk on his back). These

results are significant given that, in previous work with physically aggressive children, hostile attribution biases have been shown to predict increases in children's aggression over time (see Crick and Dodge, 1994, for a review).

Investigations of other steps of the SIP model have provided further evidence of unique processing patterns that may precede relationally aggressive behavior. Delveaux and Daniels (2000) studied the relations among goals (step 3) and aggressive and prosocial responses to conflict situations (step 5) in a sample of 4th- through 6th-grade children. They found that children associated both relationally and physically aggressive strategies with the goals of self-interest, control and revenge. However, relationally aggressive strategies were more strongly associated with the goals of avoiding trouble and maintaining larger peer group relations than were physically aggressive strategies. These findings suggest that children who seek to retaliate or dominate a peer, but are concerned with avoiding detection and possibly damaging their own reputation in the peer group, may be particularly likely to use relational as opposed to physical aggression. Crick and Werner (1998) also studied the response decision step of the SIP model and found that girls evaluated relationally aggressive responses to peer conflicts more positively, whereas boys evaluated physically aggressive responses more positively. Taken together, the results of these studies suggest that relationally aggressive children, children with particular social goals, and girls relative to boys, may process social information in ways that contribute to the use of relational aggression.

Normative Beliefs About Aggression

One component of the SIP model that has received relatively less attention, to date, is the role of latent social knowledge structures in children's aggressive behavior. Whereas on-line information processing patterns are conceptualized as a proximal antecedent of aggression, knowledge structures, or "database" knowledge, is believed to function as a cross-situational, distal storehouse of information that controls behavior by imposing limits on the child's processing of specific information. According to Huesmann (1988), knowledge structures such as scripts are influenced by past social experiences and, in turn, they influence behavior by becoming a "lens" through which children process social information. One type of latent knowledge structure is an individual's beliefs about the legitimacy or normative nature of aggression. Huesmann and Guerra (1997) demonstrated that children who believe that aggression is an appropriate response are more aggressive relative to those who believe

aggression is an inappropriate or unacceptable behavior in social situations.

In cross-sectional and longitudinal studies, individual differences in children's normative beliefs about aggression have been shown to predict aggressive behavior as rated by peers, teachers, and self-reports (Henry *et al.*, 2000; Huesmann and Guerra, 1997; Zelli *et al.*, 1999). Viewed in the context of the SIP model, these findings suggest that children who believe aggression is acceptable may be more likely to encode negative emotion cues in the environment, interpret those cues as intentionally hostile, and access aggressive retaliatory responses from memory. In contrast, the belief that aggression is generally *not* acceptable may lead to a markedly different pattern of information processing by a child when faced with the same social situation. The hypothesis that social information processing mediates the association between normative beliefs and aggression was tested in a recent longitudinal study. Zelli *et al.* (1999) demonstrated that stronger beliefs supporting the legitimacy of aggression predicted more deviant social information processing (i.e., hostile attribution bias) 1 year later and higher levels of aggression 2 years later.

The significance of this line of work is demonstrated further by intervention studies showing that changes in children's normative beliefs about aggression and maladaptive social information processing patterns lead to increases in adaptive behavior over time (Conduct Problems Prevention Research Group, 1999; Hudley *et al.*, 1998; Hudley and Graham, 1993, 1995). Unfortunately, the majority of work in this area to date has focused on overt forms of aggression such as physical and verbal aggression, and some investigations have included boys only. Exceptions include Crick and colleagues' work on the social-cognitive bases of relational aggression—work that highlights the utility of the SIP framework for understanding this form of aggression. The present studies extend prior work in this area by focusing on the role of latent knowledge structures for adolescents' relational aggression.

The Present Research

In the present research, two studies using independent samples were conducted in which participants' normative beliefs about aggression were examined in relation to their self-reported aggressive behavior. Whereas the majority of prior studies in this area empirical work have been conducted with grade school children, this study examined the relationship between normative beliefs and relational aggression among adolescents. Ado-

lescents are an important group to study given that involvement in relational aggression has been shown to escalate during this time period (Bjorkqvist *et al.*, 1992; Owens *et al.*, 2000; Werner and Hill, 2004). Peer status, approval, identity, intimacy, as well as a sense of belonging, are all salient issues for adolescents. Although not harmful in their own right, these normative developmental tasks may lead to confusion, increased peer competition, and selfish ambition, making the ground particularly fertile for relational aggression (Simmons, 2002; Wiseman, 2002).

Our first research goal was to examine the psychometric properties of a self-report measure of relational and physical aggression developed originally by McDonald *et al.* (2000). Currently, peer-nominations are considered to be the "industry standard" for assessing relational aggression in children. However, there are significant difficulties associated with using peer-nominations with older children and adolescents, such as the absence of a confined peer group within which to do peer nominations. In light of this and other concerns, several researchers have used self-report instruments to measure aggression. Notably, Little *et al.* (2003) found that the associations of adolescents' self-reported relational aggression and social adjustment were consistent with prior reported correlations of peer- and teacher-reported relational aggression and adjustment (see Crick *et al.*, 1999). In addition, Zelli *et al.* (1999) found that the correlations between normative beliefs about aggression and self-reported overt aggression in 3rd through 5th graders, although slightly higher, were not significantly different from those between normative beliefs and teacher-reported aggression (both sets of correlations were positive and significant). These findings suggest that the self-report methodology is appropriate for the study of aggression.

McDonald *et al.* (2000) examined the psychometric properties of a self-report instrument designed to measure relational and physical aggression in an ethnically diverse sample of 6th, 7th, and 8th graders. In this research we sought to further validate this instrument by examining its factor structure (Study 1 and Study 2) and assessing its test-retest reliability over a 10-week period (Study 1).

The second goal of this research was to develop an instrument to assess beliefs about the legitimacy or acceptability of relational aggression. In Study 1, we revised the NOBAGS (Huesmann and Guerra, 1997)—an instrument designed to assess normative beliefs about direct physical and verbal aggression, to include items assessing beliefs about the acceptability of relationally aggressive actions. We then sought to demonstrate the reliability and validity of this revised measure by examining its factor structure

and internal consistency (Studies 1 and 2) and test–retest reliability (Study 1).

Our third and central goal was to explore associations between normative beliefs and adolescents' self-reported relational and physical aggression. We hypothesized that those adolescents who endorsed relatively positive beliefs about relational aggression would report higher levels of relationally aggressive behavior compared to adolescents reporting less legitimacy of relational aggression, whereas adolescents who believe physical aggression is an acceptable response would report higher levels of physical aggression. Importantly, we expected that beliefs about aggression and aggressive behavior would be relatively specific to aggression type. In other words, normative beliefs about relational aggression were expected to correlate more strongly with relational aggression than with physical aggression. Normative beliefs about physical aggression, on the other hand, were expected to correlate more strongly with self-reports of physical aggression than with relational aggression. Although to our knowledge, this is the first research to assess the *specific* relations between normative beliefs about aggression and aggressive behavior, these hypotheses are supported by prior findings of unique links between relational aggression and hostile attribution biases in relational, but not instrumental contexts (Crick, 1995; Crick *et al.*, 2002). These hypotheses were explored initially in Study 1 and replicated with a larger, more representative sample in Study 2.

STUDY 1

Method

Participants

A total of 122 seventh and eighth-grade girls from 2 public suburban schools in a northeastern town participated in Study 1. The majority of students came from lower or middle-income families. Approximately 12% of students in one school and 29% of students in the second school qualified for the free-lunch program. The majority of the sample (88%) was European American, 7% was African American, and 5% represented other ethnic groups. Given that some prior studies have shown relational aggression to be a more salient behavior in girls' peer groups compared to boys', the participating schools requested that recruitment be limited to girls only. Parents of all girls in the targeted grades were initially contacted via a letter from the school principal, and consent forms explaining the details of the study

were mailed along with these letters. Only girls who received parental consent took part in the study, and the overall consent rate was 62%.

Measures

Assessment of Aggression. Self-reports of aggression were obtained using 10 items from a measure designed by McDonald *et al.* (2000). Participants indicated how often in the last 6 months they engaged in a series of behaviors on a 5-point scale (1 = *never* to 5 = *5 or more times*). The 10 items make up 2 aggression subscales: relational aggression (4 items; e.g., How often in the past 6 months have you spread rumors that weren't true?) and physical aggression (6 items; e.g., How often in the past 6 months have you started a fist fight or shoving match?). McDonald *et al.* found the relational aggression and physical aggression subscales of their larger measure to be reliable with Cronbach's alphas of 0.70 and 0.81, respectively, and the convergent validity of the scales was demonstrated by findings that relational and physical aggression were associated in predicted ways with indicators of social and psychological maladjustment. The 10 aggression items can be found in Table VI.

Assessment of Normative Beliefs. To assess participants' beliefs about the acceptability of relational aggression in addition to other forms of aggression, we adapted Huesmann and Guerra's (1997) Normative Beliefs About Aggression Scale (NOBAGS). The original instrument contains 20 items making up two subscales: General Approval of Aggression (i.e., children's beliefs about the acceptability of using aggression, in general) and Approval of Retaliation (i.e., children's beliefs about the acceptability of using aggression in response to a provocation). Huesmann and Guerra conceptualized items on the NOBAGS as differing along the dimensions of severity of provocation and severity of response. For example, a physically aggressive provocation was considered to be more severe than a verbally aggressive provocation, and different responses (e.g., hitting the child; screaming at the child) were conceptualized similarly.

Because we were interested in adolescents' normative beliefs about different *forms* of aggression, rather than their beliefs as a function of the severity of provocation or response, we differentiated between items on the revised measure in terms of the form of aggression being evaluated (i.e., relational, verbal, physical). In addition, because the NOBAGS contains items assessing physical and verbal aggression only, we added several items that assessed respondents' normative beliefs about relational aggression. Several items assessing beliefs about physical

aggression were dropped in order to keep the instrument brief. The revised measure contains 27 items making up two scales (General Approval of Aggression and Approval of Retaliation), with each scale consisting of subscales assessing normative beliefs about a particular form of aggression (relational, verbal, physical) in response to 3 different provocation types (relational, verbal, and physical). Thus, the revised measure yields data that conform to a 3 (provocation type) × 3 (response type) design. Participants responded to each belief item on a 4-point scale by indicating whether the behavior was *perfectly OK* (0), *sort of OK* (1), *sort of wrong* (2), or *really wrong* (3). Items were reversed scored so that higher scores would indicate *greater endorsement or acceptability of aggression*. In the current study, we were only interested in adolescents' normative beliefs about relational and physical aggression.

Procedure

Participants completed the questionnaires in a small-group setting during 2 assessments separated by 10 weeks. Instructions were read aloud by the 2nd author or a trained research assistant, but participants completed the surveys on their own.

Results

Psychometric Properties of the Self-Report of Aggression Instrument

Our 1st research question concerned the psychometric properties of the self-report measure of relational aggression (McDonald *et al.*, 2000). To address this aim, we

conducted a principal components factor analysis with varimax rotation on the 10 aggression items. This procedure yielded a 3-factor solution that accounted for 60% of the observed variation in aggression scores. The 1st factor consisted of the 4 items assessing relational aggression, and it explained 34.3% of the variance (eigenvalue = 3.4). Items assessing physical aggression loaded on the remaining 2 factors, which explained 15.5% (eigenvalue = 1.5) and 10.6% of the variance (eigenvalue = 1.1) in aggression scores, respectively. These results provide initial evidence that relational aggression and physical aggression are distinct constructs in early adolescence.

The relational aggression and physical aggression subscales were found to be internally consistent with Cronbach's alphas of 0.72 and 0.70, respectively. Test-retest reliability across a 10-week period was 0.56 for relational aggression and 0.62 for physical aggression. Refer to Table I for descriptive statistics on the aggression subscales.

Psychometric Properties of the Revised Normative Beliefs Instrument

Next, we examined the psychometric properties of the revised normative beliefs instrument. We conducted principal components factor analyses with varimax rotation on the Approval of Retaliation items and on the General Beliefs items. We considered the use of an exploratory analysis appropriate given that no prior studies, to our knowledge, have explored the factor structure of the normative beliefs construct. We were primarily interested in examining whether the items assessing approval

Table I. Descriptive Statistics for Study Variables

Variable	Study 1			Test-retest	Study 2		
	Mean	SD	α		Mean	SD	α
Aggression subscales							
RA	1.53	0.60	0.72	0.56	1.55	0.48	0.66
PA	1.42	0.54	0.70	0.62	1.22	0.43	0.73
Normative beliefs subscales							
Retaliation beliefs							
RA-Ret	2.49	0.61	0.88	0.57	2.25	0.63	0.88
Rumor-Ret	1.30	0.47	0.72	0.36	1.32	0.51	0.75
PA-Ret	1.25	0.47	0.49	0.46	1.15	0.43	0.81
General beliefs							
RA-Gen	1.58	0.45	0.55	0.39	1.86	0.56	0.59
PA-Gen	1.19	0.39	0.64	0.06	1.16	0.41	0.65

Note. RA = relational aggression; PA = physical aggression; RA-Ret = beliefs about relational aggression used as retaliation; Rumor-Ret = beliefs about rumor spreading used as retaliation; PA-Ret = beliefs about physical aggression used as retaliation; RA-Gen = general beliefs about relational aggression; PA-Gen = general beliefs about physical aggression.

for different forms of aggression would load on separate factors, or alternatively, if normative beliefs about aggression are best conceptualized as a single factor. We were also interested in whether the items would load on separate factors as a function of the type of provocation (relational, verbal, or physical). Factors with eigenvalues greater than 1.0 were retained in the following analyses.

Approval of Retaliation. The factor analysis conducted on the Approval of Retaliation items yielded a 4-factor solution that accounted for 66% of the observed variation in scores. As predicted, items clustered together as a function of the type of aggressive retaliation, rather than as a function of the type of provocation. The 1st factor consisted of relationally aggressive responses with the exception of evaluation of rumor spreading as retaliation, and it explained 39.1% of the variance (eigenvalue = 6.6). Items assessing the acceptability of verbal aggression used as retaliation loaded on the 2nd factor and accounted for 12.5% of the total variance in participants' scores (eigenvalue = 2.1). The 3rd factor consisted of 3 items assessing the acceptability of spreading rumors as a retaliatory response (eigenvalue = 1.4, 8.0% of variance), and the final factor consisted of items assessing the acceptability of using physical aggression as retaliation (eigenvalue = 1.1; 6.4%). Refer to Table II for factor loadings.

Table II. Study 1: Factor Loadings From Principal Components Analysis with Varimax Rotation: Retaliation Belief Items

Item	Factor loading
Factor 1: Relational aggression retaliation	
Insult: stop talking	0.60
Insult: friendship threat	0.60
Insult: exclude	0.68
Rumors: stop talking	0.59
Rumors: friendship threat	0.72
Rumors: exclude	0.70
Fight: stop talking	0.76
Fight: friendship threat	0.75
Fight: exclude	0.70
Factor 2: Verbal aggression retaliation	
Insult: scream	0.82
Rumors: scream	0.85
Fight: scream	0.79
Factor 3: Rumor-spreading retaliation	
Insult: rumors	0.84
Rumors: rumors	0.58
Fight: rumors	0.75
Factor 4: physical aggression retaliation	
Insult: hit	0.74
Fight: hit	0.45

Note. Format for items above is *Type of Provocation* (rumors, insult, fight): *Form of Aggressive Response*.

Based on the results of the factor analysis, we computed 4 subscale scores at each assessment: approval of relational aggression used as retaliation (RA-Ret), approval of rumor spreading (Rumors-Ret), approval of verbal aggression used as retaliation (VA-Ret), and approval of physical aggression used as retaliation (PA-Ret). Cronbach's alphas for the subscales were 0.88, 0.72, 0.87, and 0.49, respectively, and test-retest reliability across a 10-week period was 0.57, 0.36, 0.62, and 0.46. In our central analyses, we focus only on subscales involving relational and physical aggression.

General Beliefs. The factor analysis conducted on General Beliefs items yielded a 3-factor solution accounting for 57.2% of the total variance in scores. Items assessing beliefs about the acceptability of physical aggression loaded on Factor 1 (eigenvalue = 3.0), which accounted for 33.6% of the variance. The 2nd and 3rd factors consisted primarily of relational aggression items (eigenvalues = 1.1 and 1.0, respectively), and each accounted for approximately 12% of the total variance in scores. One item assessing general beliefs about verbal aggression ("insult") had a small loading on Factor 2, and the 2nd verbal aggression belief item ("say hurtful things") cross-loaded on Factors 1 and 3. Refer to Table III for factor loadings greater than 0.55.

Although the general beliefs relational aggression items loaded on 2 separate factors, alphas computed for these 2 factors were unacceptable. In addition, these 2 factors were significantly correlated (0.75). Thus, we decided

Table III. Study 1: Factor Loadings From Principal Components Analysis with Varimax Rotation: General Belief Items

Item	Factor loading
Factor 1: Physical aggression	
It is usually OK to push or shove other people around if you're mad.	0.82
In general, it is OK to take your anger out on others by using physical force.	0.77
Factor 2: Relational aggression	
In general, it is wrong to ignore someone, even if you really don't want him/her to be a part of your group.	0.61
If you're angry, it is OK to spread rumors about a kid.	0.65
In general, it is OK not to say anything when you see a group of kids excluding a kid from their circle of friends.	0.72
Factor 3: Relational aggression	
It is wrong to share someone's secrets with other people when you are mad (reverse).	0.82
In general, it is OK to not let someone sit with your group of friends at the lunch table.	0.65

to create 2 subscales: general beliefs about physical aggression (PA-Gen; $\alpha = 0.64$) and general beliefs about relational aggression (RA-Gen; $\alpha = 0.55$) Test-retest reliability for these subscales was 0.06 and 0.39, respectively. A correlation matrix of all normative belief subscales can be found in Appendix.

Relations Between Normative Beliefs About Aggression and Self-Reported Aggressive Behavior

To examine the relations between relational aggression, physical aggression, and normative beliefs, we first computed simple correlation coefficients between the variables. Table IV shows that self-reported relational aggression was significantly, positively correlated with RA-Ret, Rumors-Ret, and RA-Gen. Physical aggression was also correlated with Rumors-Ret, PA-Ret, RA-Gen, and PA-Gen. Due to the moderate overlap between relational and physical aggression ($r = 0.47, p < 0.001$), we next computed partial correlations between each form of aggression and the normative beliefs subscales while controlling for the other form of aggression. Consistent with our predictions about the specificity of beliefs – aggression relations, the results in Table IV show that, when controlling for relational aggression, higher levels of physical aggression were uniquely associated with more positive attitudes about physical aggression (retaliation and general beliefs), but not with beliefs about relational aggression. On the other hand, when we controlled for physical aggression, relational aggression scores were significantly, positively correlated only with RA-Ret and RA-Gen.

Table IV. Study 1: Correlations Between Normative Beliefs About Aggression and Self-Reported Aggression

	Relational	Physical
Retaliation beliefs		
RA-Ret	0.24** (0.19*)	0.17 (0.08)
Rumor-Ret	0.20* (0.15)	0.18* (0.11)
PA-Ret	0.12 (–0.03)	0.37*** (0.36***)
General beliefs		
RA	0.36*** (0.30***)	0.25*** (0.12)
PA	0.04 (–0.08)	0.28** (0.28**)

Note. $N = 122$. Correlations in parentheses are partial correlations (controlling for the other form of aggression). RA = relational aggression; PA = physical aggression; RA-Ret = beliefs about relational aggression used as retaliation; Rumor-Ret = beliefs about rumor spreading used as retaliation; PA-Ret = beliefs about physical aggression used as retaliation; RA-Gen = general beliefs about relational aggression; PA-Gen = general beliefs about physical aggression.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

To determine whether the correlations between normative beliefs about relational and physical aggression and the corresponding behavior were significantly different from one another, we conducted Fisher’s r to z transformations on the partial correlations. These analyses demonstrated that the association of relational aggression and RA-Ret was significantly different from the association with PA-Ret, and the association of relational aggression and RA-Gen differed significantly from that with PA-Gen. Moreover, the association of physical aggression with PA-Ret differed significantly from that with RA-Ret and Rumors-Ret. The correlation of physical aggression with PA-Gen, however, although greater in magnitude, did not differ significantly from that with RA-Gen. Overall, these results further support the specificity of the beliefs-behavior associations.

In our final set of analyses, we used hierarchical linear regression to explore the unique contribution of normative beliefs to the prediction of relational and physical aggression. In the analysis predicting each form of aggression, scores for the other form of aggression were entered at Step 1 (to control for the overlap in relational and physical aggression). Scores for retaliation beliefs were entered at Step 2, and scores for general beliefs were added at the final step. We entered the normative belief variables in consecutive blocks to examine the relative contribution of the 2 types of normative beliefs to the prediction of aggression. Table V shows the results of the regression analyses.

In the prediction of relational aggression, physical aggression explained 16% of the variance in participants’ scores. The addition of the retaliation belief scores at Step 2 added a marginally significant addition of 12% explained variance, $F\Delta(3, 117) = 2.5, p = 0.06$, and RA-Ret scores emerged as the single strongest predictor ($\beta = 0.16, p < .10$). Step 3 added a significant increment of explained variance (7%), $F\Delta(2, 115) = 25.3, p < 0.01$, and examination of individual beta coefficients showed that only RA-Gen scores explained a significant amount of unique variance in relational aggression ($\beta = 0.30, p < 0.01$).

In the 2nd analysis, retaliation beliefs (Step 2) added significantly to the prediction of physical aggression, $F\Delta(3, 117) = 6.0, p < 0.001$. Examination of beta weights revealed that beliefs about the acceptability of physical aggression used as retaliation (PA-Ret) were the only unique predictor of engagement in physical aggression ($\beta = 0.38, p < 0.001$). Step 3 also produced a significant increase in explained variance, $F\Delta(2, 115) = 3.3, p < 0.05$, with PA-Gen scores ($\beta = 0.24, p < 0.01$) emerging as the single significant predictor of physical aggression.

Table V. Study 1: Regression Analysis Summary Predicting Aggression From Normative Belief Variables

Variable	Relational aggression					Physical aggression				
	R^2	ΔR^2	B	SEB	β	R^2	ΔR^2	B	SEB	β
Step 1	0.16***	0.16***				0.16***	0.16***			
Aggression control			0.44	0.10	0.39***			0.36	0.08	0.40***
Step 2	0.21***	0.12 [†]				0.27***	0.11***			
RA-Ret			0.16	0.09	0.16 [†]			0.00	0.08	0.00
Rumors-Ret			0.18	0.13	0.15			0.00	0.11	-0.09
PA-Ret			-0.20	0.13	-0.15			0.43	0.11	0.38***
Step 3	0.27***	0.07**				0.31***	0.04*			
RA Gen			0.40	0.14	0.30**			0.00	0.13	0.00
PA Gen			-0.27	0.15	-0.18			0.33	0.13	0.24**

Note. $N = 122$. RA = relational aggression; PA = physical aggression; RA-Ret = beliefs about relational aggression used as retaliation; Rumor-Ret = beliefs about rumor spreading used as retaliation; PA-Ret = beliefs about physical aggression used as retaliation; RA-Gen = general beliefs about relational aggression; PA-Gen = general beliefs about physical aggression.

[†] $p < 0.10$; ** $p < 0.01$; *** $p < 0.001$.

Discussion

Study 1 was designed to explore the psychometric properties of a self-report measure of relational and physical aggression, to provide initial evidence of the reliability and validity of a revised measure of normative beliefs about aggression, and to explore the relations between beliefs about aggression and aggressive behavior. The findings from this study provide strong preliminary support for our central hypothesis that beliefs about specific forms of aggression are uniquely associated with self-reports of engagement in those forms of aggressive behavior.

An exploratory factor analysis of the self-report measure of aggression replicated prior findings with children and with different informants (i.e., teachers and peers) and demonstrated that relational aggression and physical aggression are best conceptualized as distinct constructs (Crick *et al.*, 1997; Crick and Grotpeter, 1995; Hart *et al.*, 1998; Rys and Bear, 1997; Tomada and Schneider, 1997). Interestingly, a similar analysis conducted on the revised normative beliefs measure revealed that items assessing approval of relational, physical, and verbal aggression loaded on separate factors across general situations and in response to different types of provocation. One exception, however, was the finding that adolescents viewed rumor spreading used as retaliation as distinct from other types of relational aggression. It may be that malicious gossip is seen as a more “serious” form of retaliation than exclusionary acts, which comprised the other relational aggression items. In fact, in some early studies of relational aggression, one item assessing gossip tended to cross-load on relational and physical aggression scales (Crick and Grotpeter, 1995), providing some support for this notion. Nonetheless, future studies need to replicate

this result before drawing firm conclusions. Overall, the results of Study 1 provide initial evidence that, despite their overlapping features, when measuring adolescents’ beliefs and their behavior, it is important to distinguish between different forms of aggression.

We also found that the McDonald instrument and our revised measure of normative beliefs demonstrated acceptable internal consistency and test-retest reliability for most subscales, and our results were similar to those reported by McDonald *et al.* (2000), Huesmann and Guerra (1997) and Zelli *et al.* (1999). A few exceptions, however, should be noted. The reliability of the PA-Ret subscale was lower than desired, and although the internal consistency of the PA-Gen subscale was acceptable, its test-retest reliability approached zero. The reasons for these results are unknown, thus we sought to re-examine the psychometric properties of this instrument in Study 2 with a larger sample.

As stated previously, our central goal for Study 1 was to explore the unique associations between beliefs about aggression and adolescents’ aggressive behavior. We expected that participants’ beliefs about different forms of aggression would correlate with self-reports of their aggressive behavior, however we predicted that associations would be strongest between beliefs about each form of aggression and the corresponding behavioral indicator. The results of correlational and regression analyses supported these predictions. General and retaliation beliefs about relational and physical aggression were significantly, positively associated with adolescents’ reports of relational aggression and physical aggression. Importantly, however, partial correlations revealed that, when the overlap between relational and physical aggression was controlled, the beliefs-behavior associations were

specific to aggression type. Multiple regression analyses further showed that, in the prediction of relational aggression, only general beliefs about relational aggression were uniquely associated with engagement in relationally aggressive acts. When physical aggression was the criterion variable, general beliefs and retaliation beliefs about physical aggression, but not about relational aggression, contributed unique information about participants' level of physical aggression.

Although the results of Study 1 provided strong initial evidence in support of our predictions about associations between normative beliefs about aggression and adolescents' aggressive behavior, this study was limited by the use of a small, female only sample. Study 2 was designed to replicate and extend the results of Study 1 using a large, more representative sample of early adolescents. In addition, we were interested in investigating gender differences in belief-behavior associations. We did not expect to find significant differences in the strength or direction of relations between beliefs and behavior for males and females. Although mean differences in aggression and normative beliefs have been found in prior studies, with males reporting higher levels of physical aggression and approval of aggression, and females engaging in either equivalent or higher levels of relational aggression, few significant gender differences in the association of normative beliefs and aggression have been found (Huesmann and Guerra, 1997; Zelli *et al.*, 1999). Nonetheless, given that no prior investigations have included relational aggression and normative beliefs about relational aggression, we felt it was important to examine gender differences in our analyses.

STUDY 2

Method

Participants

A total of 1208 male and female 5th and 6th graders from 4 areas of the country (western New York, north central Ohio, eastern Pennsylvania, and eastern Michigan) participated in this study. The sample included 361 5th graders (188 boys and 173 girls; $M = 10.19$ years) and 847 6th graders (451 boys and 396 girls; $M = 11.14$ years). Approximately 13% of the sample was African American, 82% was European American, and 5% represented other ethnic groups.

Participants were drawn from 4 schools that had adopted a school-wide prevention program targeting relational and other forms of aggression (Creating a Safe

School™ [CASS]). This manuscript utilizes baseline evaluation data only (i.e., data collected prior to the implementation of CASS). Because CASS was adopted by the entire school and was being implemented as a part of the regular school curriculum, a passive consent procedure was approved by the Human Subjects Board of Penn State University—Erie Campus. A letter was mailed out to parents of all children in the targeted grades describing the details of CASS and the program evaluation efforts. Parents who did not want their child to take part in the data collection could indicate so on an attached form and return it to the school. In addition, at the beginning of data collection, children were informed that their participation was voluntary and that they did not have to complete the questionnaires if they did not wish to. Overall, participation rate™ was over 98%.

Measures and Procedure

Participants normative beliefs about aggression and self-reported aggressive behavior were assessed using the same instruments as in Study 1. Questionnaires were completed by participants during a 45-min, classroom-based assessment conducted in the fall of 2002. Participants were trained in the use of the response scales prior to the administration of the surveys. Each item was read aloud by the administrator and research assistants made available throughout the testing administration.

Results

Confirmatory Factor Analysis of Self-Report of Aggression Instrument

In Study 1 we found initial evidence from a principal components factor analysis that relational aggression and physical aggression are relatively distinct constructs. In Study 2, we sought to replicate and extend these findings by conducting a confirmatory factor analysis (CFA) using AMOS 4.0 (Arbuckle, 1999) on the 10 aggression items. We hypothesized that two factors would emerge from the CFA—a physical aggression factor and a relational aggression factor. We compared the fit of the 2-factor model with an alternative 1-factor model.

To evaluate the adequacy of the 2-factor and 1-factor models, we report 2 measures of *absolute* fit, the goodness-of-fit index (GFI; Joreskog and Sorbom, 1996) and the root-mean-square error of approximation (RMSEA; Steiger, 1998). As a measure of *relative* fit, we report the comparative fit index (CFI; Bentler, 1990).

With respect to GFI and CFI estimates, values range from 0 to 1.0 and larger values (>0.90) are generally considered acceptable (Bentler and Bonett, 1980), and RMSEA values between 0.05 and 0.08 indicate good fit (Browne and Cudeck, 1993).

The results of the CFA demonstrated that the original 2-factor model provided an adequate fit to the data, however 2 physical aggression items had loadings smaller than 0.40 on the physical aggression factor. Examination of these items revealed that they assessed relatively extreme forms of physically aggressive behavior with little variance in the present sample (“Been in a fight with gang members” and “Carried a weapon, like a knife or gun”). We therefore decided to drop those items and re-run the analysis using the 8 remaining items. This analysis yielded a good fit to the data (GFI = 0.98; RMSEA = 0.05; CFI = 0.96). Comparison of these indices with those yielded by the alternative 1-factor model revealed that the latter model does not provide a better fit to the data (GFI = 0.96; RMSEA = 0.08; CFI = 0.89), thus supporting the multidimensionality of the aggression construct and the distinctiveness of relational and physical aggression. Refer to Table VI for factor loadings for the final (2 factor) model.

Confirmatory Factor Analysis of Normative Beliefs Instrument

The results of Study 1 also provided initial confirmation of our hypothesis that normative beliefs about relational and physical aggression are best conceptualized as distinct social-cognitive variables. We sought to replicate

Table VI. Study 2: Factor Loadings From Confirmatory Factor Analysis on Aggression Items: 2-factor Solution

Item	Factor loading
Factor 1: Physical aggression	
Started a fistfight or shoving match	0.58
Threatened to hit or beat up others	0.70
Had a serious fight at school	0.41
Hit someone because you did not like what they said or did	0.67
Factor 2: Relational aggression	
Threatened to stop being someone's friend in order to hurt them or get what you wanted from them	0.46
Gotten in an argument with classmates	0.53
Tried to exclude someone from group activities	0.54
Spread rumors that weren't true	0.46
Tried to get other people to stop hanging out with someone or to stop liking someone you were mad at	0.45

these findings in Study 2 with our larger sample. Towards this goal, we conducted separate confirmatory factor analyses on the retaliation belief items and the general belief items.

Retaliation Beliefs. Because items assessing beliefs about rumor spreading used as retaliation loaded on its own factor in Study 1, in Study 2 we compared a 1-factor model (hypothesizing that beliefs about different forms of aggression load on a single factor) with a 3-factor model (separate factors for retaliation beliefs about relational, verbal, and physical aggression) and a 4-factor model (separate factors for beliefs about relational, rumor spreading, verbal, and physical aggression).

The results of the CFA revealed that the 1-factor model was a very poor fit to the data (GFI = 0.65; RMSEA = 0.17; CFI = 0.47). The 3-factor model produced a significantly better fit to the data (GFI = 0.77; RMSEA = 0.13; CFI = 0.70), however the 4-factor model proved to fit the data best (GFI = 0.81; RMSEA = 0.12; CFI = 0.76). These results provide support for the hypothesis that normative beliefs about aggression are multifaceted in nature. That being said, none of these models tested yielded fit indices that are generally considered adequate. Refer to Table VII for factor loadings.

Table VII. Study 2: Factor Loadings From Confirmatory Factor Analysis on Retaliation Belief Items: 4 Factor Solution

Item	Factor loading
Factor 1: Relational aggression retaliation	
Insult: stop talking	0.51
Insult: friendship threat	0.63
Insult: exclude	0.54
Rumors: stop talking	0.60
Rumors: friendship threat	0.73
Rumors: exclude	0.62
Fight: stop talking	0.62
Fight: friendship threat	0.73
Fight: exclude	0.67
Factor 2: Verbal aggression retaliation	
Insult: scream	0.79
Rumors: scream	0.86
Fight: scream	0.69
Factor 3: Rumor-spreading retaliation	
Insult: rumors	0.65
Rumors: rumors	0.73
Fight: rumors	0.53
Factor 4: Physical aggression retaliation	
Insult: hit	0.88
Rumors: hit	0.79
Fight: hit	0.63

Note. Format for items above is *Type of Provocation* (rumors, insult, fight): *Form of Aggressive Response*.

Table VIII. Study 2: Factor Loadings From Confirmatory Factor Analysis: General Belief Items

Item	Factor loading
Factor 1: Physical aggression	
It is usually OK to push or shove other people around if you're mad	0.65
In general, it is OK to take your anger out on others by using physical force	0.52
Factor 2: Verbal aggression	
In general, it is OK to insult other people	0.60
If you are angry, it is OK to say hurtful things to other people	0.64
Factor 3: Relational aggression	
In general, it is wrong to ignore someone, even if you really don't want him/her to be a part of your group	0.61
In general, it is OK not to say anything when you see a group of kids excluding a kid from their group of friends	0.35
If you are angry, it is OK to spread rumors about another person	0.48
In general, it is OK to not let someone sit with your group of friends at the lunch table	0.56

General Beliefs. Two CFA were conducted on the 8 general beliefs about aggression items.³ Comparison of a single-factor model (general beliefs about aggression) with a 2-factor model (separate factors for general beliefs about relational aggression and physical aggression) revealed that the latter model was a significantly better fit to the data (1-factor: GFI = 0.95; RMSEA = 0.09; CFI = 0.87; 2-factor: GFI = 0.99; RMSEA = 0.05; CFI = 0.97). Factor loadings can be seen in Table VIII.

Relations Between Beliefs About Aggression and Self-Reported Aggressive Behavior

Our final set of analyses was designed to further explore the relations between normative beliefs about aggression and adolescents' aggressive behavior. Toward this aim, we conducted 2 hierarchical regression analyses similar to those conducted in Study 1 in which aggression scores were the dependent variables and normative beliefs subscales were independent variables. We also tested for gender differences in the relations of normative beliefs and aggression. At Step 1, we entered gender and the aggression control; at Step 2, scores for RA-Ret, Rumors-Ret, and PA-Ret were entered; at Step 3, we entered scores for RA-Gen and PA-Gen, and at the final step, all

interactions of gender and the 5 normative beliefs subscales were entered. In light of the results of the CFA above, the results pertaining to the retaliation beliefs subscales should be interpreted cautiously.

The results of the regression analyses can be seen in Table IX. When relational aggression served as the dependent variable, beliefs about relational aggression and rumor spreading used as retaliation, and general beliefs about relational aggression emerged as unique predictors. Beliefs about physical aggression, in contrast, were not significantly associated with self-reports of relational aggression. In the 2nd regression analysis predicting physical aggression scores, we found that general and retaliatory beliefs about physical aggression were the only significant predictors. Although there were mean level gender differences in physical aggression (but not relational aggression), gender did not interact with the normative belief scores in the prediction of either form of aggression.

Discussion

Overall, the results of Study 2 replicated those of Study 1 and thus provide stronger support for our central hypotheses. First, the results of the CFA on the aggression instrument provided further evidence of the distinctiveness of relational and physical aggression. The factor analyses conducted on the normative beliefs instrument, however, yielded less consistent results. CFA did support the hypothesis that general beliefs about relational and physical aggression are distinct constructs, and we found that the internal consistency of the PA-Gen scale was higher in a large, diverse sample. The CFA conducted on the retaliation beliefs items clearly indicated that this is not a 1-dimensional construct, however the hypothesized 4 factor model, albeit more acceptable than the 1-factor model, did not prove to be an acceptable fit to the data. It may be that adolescents make more fine-grained distinctions between aggressive behaviors than we originally hypothesized, or that dimensions other than relational vs. physical (vs. verbal) are important in understanding adolescents' normative beliefs. For example, it may be fruitful to distinguish between proactive (e.g., obtaining specific goals such as popularity or peer approval) and reactive (e.g., seeking revenge) functions of aggression when evaluating adolescent's normative beliefs.

The final contribution of Study 2 concerns the replication of results illustrating specific associations between beliefs about aggression and adolescent aggressive behavior. Both correlational and multiple regression analyses demonstrated that adolescents' normative beliefs

³One item was dropped from the analysis ("It is wrong to share someone's secrets with other people when you're angry.") because it had 0 variance.

Table IX. Study 2: Regression Analysis Summary Predicting Aggression From Normative Belief Variables

Variable	Relational aggression					Physical aggression				
	R^2	ΔR^2	B	SEB	β	R^2	ΔR^2	B	SEB	β
Step 1	0.31	0.31***				0.33	0.33***			
Gender			0.00	0.02	0.04			-0.12	0.02	-0.15***
Aggression control			0.68	0.03	0.56***			0.46	0.02	0.55***
Step 2	0.36	0.05***				0.39	0.06***			
RA-Ret			0.00	0.02	0.10***			0.00	0.02	-0.01
Rumors-Ret			0.17	0.03	0.18***			0.00	0.02	-0.03
PA-Ret			0.00	0.03	-0.03			0.23	0.02	0.26***
Step 3	0.37	0.01***				0.41	0.02***			
RA Gen			0.11	0.02	0.13***			0.00	0.02	-0.02
PA Gen			0.00	0.04	0.00			0.18	0.03	0.19***

Note. $N = 1206$. RA = relational aggression; PA = physical aggression; RA-Ret = beliefs about relational aggression used as retaliation; Rumor-Ret = beliefs about rumor spreading used as retaliation; PA-Ret = beliefs about physical aggression used as retaliation; RA-Gen = general beliefs about relational aggression; PA-Gen = general beliefs about physical aggression.

** $p < 0.01$; *** $p < 0.001$.

about relational aggression (both retaliation and general beliefs) predicted their self-reports of relational aggression, whereas their beliefs about physical aggression were uncorrelated with relationally aggressive behavior. The converse was true for physical aggression. Prior research on normative beliefs about aggression has shown that children and adolescents who hold positive views of aggression are more likely to engage in biased processing of social information and consequently, to utilize higher levels of aggressive behavior in their peer interactions. Because the vast majority of prior studies have not assessed relational aggression, nor have they distinguished between beliefs about different forms of aggression, we know little about the role of social-cognitive processes for relational aggression. In addition to demonstrating that positive views of relational aggression are associated with higher levels of self-reported relational aggression, our results suggest that the utility of social-cognitive measures (e.g., normative beliefs) to predict individual behavior will be enhanced by distinguishing between forms of aggression when assessing behavior and beliefs.

One additional finding of Study 2 is noteworthy. We found no evidence of significant gender differences in the relations between normative beliefs and aggressive behavior. In their examination of a model linking normative beliefs, social information-processing and aggression, Zelli *et al.* (1999) also found that neither gender nor ethnicity (not examined in the present study) moderated the predicted associations. Thus, despite mean differences between males and females in endorsement of positive beliefs about aggression and self-reported aggressive behavior (both of which have been found to favor boys), our results support the notion that the social cognitive pro-

cesses operate similarly for adolescent males and females in the regulation of aggression.

CONCLUSIONS

Recent social cognitive theorists have conceptualized aggressive behavior as a dynamic interaction between latent social knowledge structures (e.g., scripts) and on-line processing (e.g., hostile attribution biases) (Crick and Dodge, 1994; Dodge, 1993; Huesmann, 1988; Zelli *et al.*, 1999). Specifically, these knowledge structures or "normative beliefs" are hypothesized to regulate aggressive behavior via their impact on patterns of social information processing. In light of the fact that prior studies have narrowly focused on physical and verbal forms of aggression, and beliefs about these forms of aggression, the present study sought to examine the associations between normative beliefs about relational aggression and adolescents' relationally aggressive behavior. Our findings demonstrated that adolescents who *believed* aggression (relational and physical) was an appropriate response indeed reported more aggressive behavior in comparison to those adolescents who believed that aggression was not an acceptable response. Further, these relationships between aggressive beliefs and behavior were specific to the *type* of aggression being assessed (relational or physical).

The findings of this study have potentially important implications for prevention and intervention efforts targeting aggression. Past researchers have found cognitive mechanisms to be important change agents in modifying aggressive behaviors (Hudley and Graham, 1993; Slaby and Guerra, 1988; Van Schoiack-Edstrom *et al.*, 2002). Taken together, the current studies suggest that

targeting specific beliefs about aggression will be important in modifying different types of aggression. For example, when attempting to reduce the incidence of relational aggression, it may be important to target children's belief systems about relational aggression, as opposed to their beliefs about physical aggression, or their beliefs about aggression in general. In light of the demonstrated multidimensionality of normative beliefs and the specific links between beliefs and respective aggressive behaviors, our results suggest that prevention and intervention efforts that do not target *specific* beliefs about varying types of aggression may be compromising their effectiveness.

A majority of current intervention and prevention programs have adopted more of a broad-brush approach to address aggressive behavior. For example, current bullying programs typically address aggression as a general construct and do not include relational aggression or beliefs supporting acts of relational aggression. Given what we know about the prevalence of relational aggression, as well as the adjustment indices associated with relational aggression (e.g., internalizing and externalizing problems), it is imperative that we begin to develop, and systematically evaluate programs specifically targeting belief systems that endorse or approve of relational aggression. Because normative beliefs are easy to measure, reflect individual differences, and are malleable (Huesmann and Guerra, 1997), they represent a promising direction for future prevention/intervention efforts.

Although the present studies demonstrate robust findings of the relationships between specific beliefs about aggression and reported aggressive behavior across 2 independent samples, the results need to be interpreted in light of inherent limitations of the studies. First, the data analyzed here are cross-sectional in nature and thus, we cannot infer any cause and effect relationships between adolescents' beliefs and their behaviors. As stated previously, future studies should use longitudinal designs to investigate the specific nature of this relationship over time. It is further possible that the correlations between adolescent beliefs and behavior are inflated due to shared method variance. However, previous studies have found significant correlations between children and adolescents' cognitions and physical aggression using different aggression informants (e.g., peer nominations and teacher reports; see Zelli *et al.*, 1999). Thus, it seems more likely that a relationship does indeed exist between adolescents' beliefs about the acceptability of relational aggression and their reported aggressive behavior. However, it is prudent that these findings be replicated using *multiple* methods (other than self report) to assess aggression, such as direct observation.

The current studies also did not include any assessment of deviant processing in relation to adolescents' normative beliefs. This is important given the recent finding that deviant social information processing mediated the relationship between beliefs and behavior (Zelli *et al.*, 1999). Future research should be employed to examine how adolescents' normative beliefs influence on-line processing about aggression and subsequent relationally aggressive behavior.

Additionally, a neglected issue in the current study is the role of emotion in the development and maintenance of normative beliefs. According to Crick and Dodge (1994), emotion is significantly likely to influence how an individual thinks about the acceptability or legitimacy of behavior such as aggression. Whether a child is anticipating an emotion or experiencing an actual emotion, it is likely that emotion exerts a significant influence on how he/she thinks about the legitimacy of aggressive behavior (Baron, 1992). For example, if a child is angry, he/she is likely to retrieve a very different "script" than if he/she is sad. Thus, an empirical investigation of the associations among emotions, normative beliefs, and relational aggression merits further study.

Finally, future studies of social cognitive process may benefit from distinguishing between reactive and proactive subtypes of relational aggression. Growing evidence suggests that these subtypes of aggression are distinct and differentially associated with personality, emotion, and social-information processing constructs (e.g., Dodge and Coie, 1987; Hubbard *et al.*, 2002; Little *et al.*, 2003). In particular, proactive aggression, which is characterized as deliberate, goal-directed behavior, has been shown to be uniquely related to positive outcome expectations for aggression (Crick and Dodge, 1996; Dodge and Coie, 1987; Dodge *et al.*, 1997). Although no studies have explored differential associations of database knowledge such as normative beliefs about aggression with proactive and reactive subtypes, it is reasonable to expect that proactively aggressive, but not reactively aggressive, individuals will possess normative beliefs supporting their use of aggressive behaviors. This hypothesis should be explored in future research.

In sum, findings from this study extend past research by examining adolescents' normative beliefs as they relate to their respective aggressive behavior. Specifically, this study provided the first information to our knowledge regarding specific associations between adolescents' normative beliefs (e.g., how acceptable relationally aggressive behaviors are in general, and in response to relational and physical provocations) and relational and physical aggression. As hypothesized, specific beliefs about aggression were associated with distinct forms of relational and

physical aggression. Given that the relationship between relational aggression and children's social-psychological adjustment has been well established (e.g., Crick, 1996; Crick and Dodge, 1994; Crick *et al.*, 2002; Rys and Bear, 1997), it is critical that we continue to explore the possible mechanisms involved in this harmful behavior. Results from these studies suggest that normative beliefs may be an essential component to unlocking the processes associated with relational aggression.

APPENDIX

Study 1 and Study 2: Correlational Matrix of all Predictor Variables

	RA-Ret	Rumors-Ret	PA-Ret	RA-Gen	PA-Gen
RA-Ret		0.41	0.32	0.38	0.09 ^{ns}
Rumors-Ret	0.30		0.52	0.57	0.50
PA-Ret	0.21	0.45		0.36	0.37
RA-Gen	0.41	0.41	0.31		0.31
PA-Gen	0.17	0.44	0.57	0.40	

Note. Correlations above the diagonal are from Study 1 ($N = 122$); correlations below the diagonal are from Study 2 ($N = 1206$). All correlations are significant at $p < .001$ except where noted. RA-Ret = beliefs about relational aggression used as retaliation; Rumor-Ret = beliefs about rumor spreading used as retaliation; PA-Ret = beliefs about physical aggression used as retaliation; RA-Gen = general beliefs about relational aggression; PA-Gen = general beliefs about physical aggression.

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