

## Negative Affect in Victimized Children: The Roles of Social Withdrawal, Peer Rejection, and Attitudes Toward Bullying

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This study evaluated the validity of mediating pathways in predicting self-assessed negative affect from shyness/social withdrawal, peer rejection, victimization by peers (overt and relational), and the attitude that aggression is legitimate and warranted. Participants were 296 3rd through 5th graders (156 girls, 140 boys) from 10 elementary schools. Self-report measures of victimization, attitudes, and negative affect, and a teacher-report measure of shyness/social withdrawal and peer rejection were completed during the spring semesters of 2 consecutive years. Hierarchical regression analyses supported the mediational model in predicting negative affect at Time 2. However, an *increase* in negative affect over the 12-month study period was best accounted for by direct effects of increased victimization and changes in attitudes/attributions regarding aggression. Implications for the planning of school interventions designed to interrupt these victimization-maladjustment pathways are discussed.

**KEY WORDS:** victimization; aggression; cognitive mechanisms; negative affect; children.

Chronic victimization of students by their peers is a significant issue in America's schools. A recent national study conducted in the United States of over 15,000 junior high and high school students found that 8.4% of those surveyed reported being bullied once a week or more during the current semester (Nansel et al., 2001). Such maltreatment by peers has been detected as early as kindergarten (Kochenderfer & Ladd, 1996). Of greatest concern, repeated victimization produces insidious, potentially debilitating effects, including increased anger and depression, low self-esteem, and social withdrawal (Craig, 1998; Crick, 1996; Hodges & Perry, 1999; Olweus, 1993). It is important to identify specific mechanisms that link victimization and emerging emotional or behavioral problems to design effective preventive interventions and evidence-based treatments for victimized youth (Vernberg

& Dill, 2003). Toward this end, the current study proposes and evaluates a three-stage sequential mediational model to explain how experiential factors (peer rejection and victimization) and cognitive mechanisms (attitudes/attributions concerning aggression) may account for the relationship between a behavioral style (shyness/social withdrawal) and internalizing symptoms during middle childhood.

Numerous studies have shown that peer victimization is associated with psychological distress. Indeed, a recent meta-analysis of cross-sectional studies concerning victimization and psychological adjustment concluded that a sufficient number of studies have identified victims' suffering in terms of social and intrapersonal forms of maladjustment (Hawker & Boulton, 2000). The authors suggested future research should examine directionality among variables (i.e., antecedents and consequences of victimization), mediators of such relationships, and differing patterns of directionality for various types of victimization (e.g., overt vs. relational).

Longitudinal studies have begun to explicate the links between victimization and maladjustment proposed in correlational research. For example, peer victimization in kindergarten predicted later loneliness and school

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avoidance (Kochenderfer & Ladd, 1996), and rejection experiences in early adolescence predicted the development of subsequent social anxiety and depression (Vernberg, 1990; Vernberg, Abwender, Ewell, & Beery, 1992). Boivin, Hymel, and Bukowski (1995) provided initial support for a mediational model linking peer victimization to loneliness and depression in middle childhood: children who reported increased loneliness at Time 2 were more socially withdrawn, rejected by peers, and victimized by peers 1 year earlier. Tests of mediation revealed that rejection and victimization completely mediated the relationship between social withdrawal and loneliness, whereas peer victimization partially mediated the linkage between peer rejection and loneliness. In a final extension of their model, Boivin et al. found that depressed mood at Time 2 was significantly predicted by social withdrawal, peer rejection, peer victimization, and loneliness 1 year earlier, and that a child's subjective experience of loneliness mediated the relationship between victimization and depression.

When looking at possible antecedents to peer maltreatment, evidence suggests that nonassertive behavioral styles (e.g., following along with peers' directives in play) may be present before becoming a target of victimization (Schwartz, Dodge, & Coie, 1993). When victimization does occur, a "vicious cycle" may be set in motion, in which repeated victimization amplifies behavioral and psychological features that invite further victimization (Hodges & Perry, 1999). Among elementary school children, interpersonal (e.g., peer rejection, poor social skills) and intrapersonal (e.g., internalizing distress, low self-regard) factors predicted increases in victimization over the course of a year, and victimization predicted increases in psychosocial maladjustment (Egan & Perry, 1998; Hodges and Perry, 1999). This reciprocal pattern also holds in early adolescence. Negative peer experiences in early adolescence (e.g., low companionship with friends, peer rejection) have prospectively predicted increases in depression, and elevated levels of depression have led to increased victimization (Vernberg, 1990). Hence, the reciprocal influences of maltreatment and psychosocial distress may account for some of the reported stability in peer victimization.

A few investigators have studied the associations between non-physical or non-verbal forms of victimization and psychological adjustment, and this research has shown the importance of considering both forms of aggression. Much of this research focuses on relational aggression, which harms a child's social relationships and reputation through rumors and other forms of ostracism (e.g., Crick, 1996, 1997; Crick & Bigbee, 1998; Crick, Casas, & Ku, 1999). With elementary school children, relational victim-

ization has been associated with internalizing problems and interpersonal maladjustment after controlling for the effects of overt victimization (Crick et al., 1999; Crick & Bigbee, 1998; Crick & Grotpeter, 1996). In addition, among adolescents, relational victimization was significantly related to the presence of internalizing distress (e.g., depression, low self-esteem) for both boys and girls, after controlling for the effects of overt victimization (Prinstein, Boergers, & Vernberg, 2001).

Further, individuals who are victimized by their peers may come to adopt a self-blaming attitude/attribution set, which could then lead to an experience of internalizing distress (Graham & Juvonen, 1998, 2001). Middle school students who were victimized and who attributed their maltreatment to internal (something due to their own personal characteristics), uncontrollable (by self), and stable causes, were likely to also report adjustment problems (Graham & Juvonen, 1998). In other words, self-blaming attributions have been found to mediate the relationship between victimization and internalizing difficulties. Social information processing theory provides one reason to expect this link. From this perspective, children form their interpersonal- and self-schemata based on their social interactions, and these *knowledge structures* influence multiple aspects of social information processing, such as one's interpretation of and response to interpersonal events (Crick & Dodge, 1994; Dodge, 1993). For example, if a child experiences repeated victimization by peers and subsequently forms an interpersonal schema that aggression is an acceptable form of behavior inflicted on individuals who in some way deserve punishment, he/she would be expected to respond to such interpersonal events with self-derogating messages, thereby contributing to the development of negative affect.

This study used a longitudinal design to test a three-stage mediational model to predict negative affect (Fig. 1), expanding on a similar model put forth by Boivin et al. (1995) to predict loneliness and depression (the final mediational step relating to attitudes concerning aggression is unique to the model being proposed in this paper, having been suggested by Graham & Juvonen, 1998). In this model, shyness and social withdrawal at the first measurement period (T1) was proposed to predict negative affect a year later (T2), as researchers have found social withdrawal in elementary school students to be predictive of depressed mood over time (Hymel, Rubin, Rowden, & LeMare, 1990). However, this relationship was expected to be mediated sequentially by interpersonal experiences (peer rejection and victimization, respectively) and a cognitive mechanism (attitudes toward aggression). To summarize the rationale for this model, children who tend to withdraw from other children and to be less assertive in

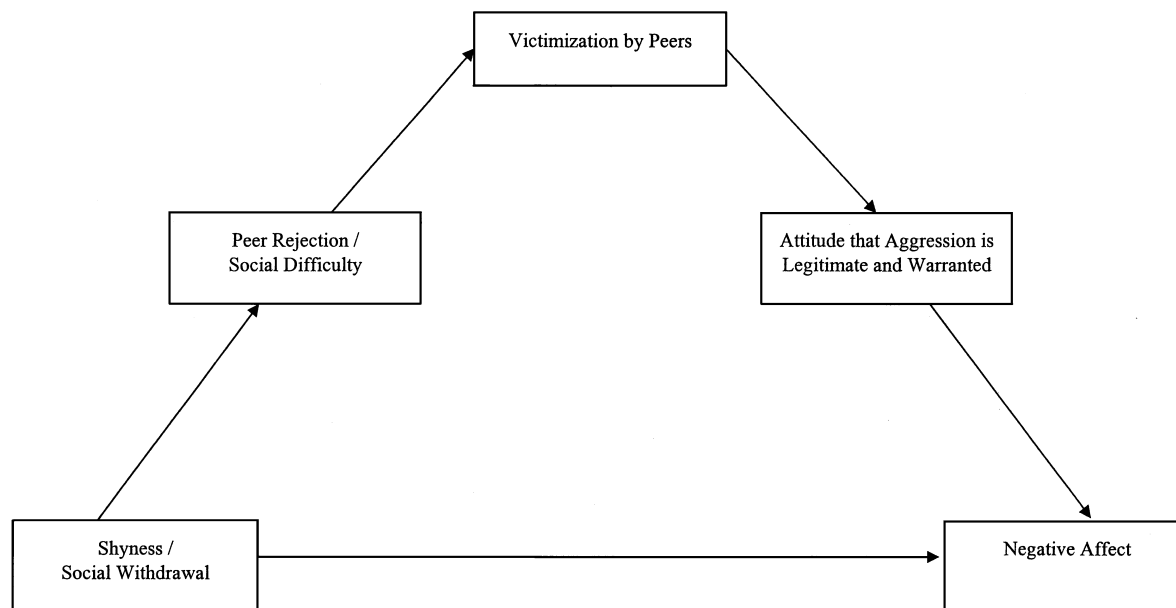


Fig. 1. Model of the hypothesized mediational paths involving behavioral, experiential, cognitive, and affective components.

their interactions with others are believed to be at an increased risk to be chosen as targets of aggression (Hodges & Perry, 1999). Withdrawal and low assertiveness may set the stage for social rejection and friendlessness, weakening a potential source of protection against aggressive peers (Hodges, Malone, & Perry, 1997). Thus, it was predicted that children who exhibit greater shyness and social withdrawal would have increased difficulty with social skills and peer rejection, which would then lead them to be likely targets for victimization by their peers. Being a frequent target of victimization was expected to be linked to greater negative affect, on the basis of numerous findings documenting associations between victimization and internalizing symptoms. Further, the connection between victimization and negative affect was expected to be partially mediated by the attitude that aggression is a legitimate and warranted form of social behavior. On the basis of research on self-blaming attributions (Graham & Juvonen, 1998) and social information processing theory (Crick & Dodge, 1994; Dodge, 1993), this schema regarding aggression was proposed to develop as a result of repeated victimization and to account in part for the victimization-negative affect connection by leading victimized children to conclude they must have done something wrong or have undesirable characteristics to be chosen as frequent targets of peer aggression. It is this particular attitude concerning aggression (in conjunction with their own experiences with maltreatment by peers)

that should then predict whether or not a child reports elevated negative affect.

As previous research has shown that peer victimization predicts adjustment difficulties longitudinally and prospectively, a logical extension is to hypothesize that change over time in victimization and other predictors will explain variance in negative affect, over and above that which is contributed by the predictors at T1 (e.g., an increase in frequency of victimization from T1 to T2 should predict higher levels of negative affect at T2, over and above the contribution made by victimization at T1). Similarly, the model should be supported when predicting change in negative affect from T1 to T2. Children who exhibit increased shyness and social withdrawal, who experience greater rejection and victimization, and who increasingly endorse the belief that aggression is legitimate between T1 and T2 should report greater negative affect at T2. Further, a significant rise in negative affect from T1 to T2 should be evident if there is a corresponding increase from T1 to T2 in the predictor variables (e.g., if the frequency of victimization increases from T1 to T2).

Because several cross-sectional studies have indicated significant adjustment difficulties in children who are victims of overt and/or relational aggression, the measure of victimization included in this study incorporated items referring to both relational and overt forms of victimization. Finally, to test the "vicious cycle" hypothesis that children who experience psychological distress are at

an increased risk for further victimization, analyses were conducted to examine whether negative affect at T1 and an increase in negative affect from T1 to T2 predicted victimization by peers at T2 directly, as well as indirectly through the prediction of shyness/social withdrawal at T2 (which is the first step along the proposed mediational pathway toward victimization).

## METHOD

### Participants

Children from 10 public elementary schools in a medium-size mid-western city participated in this study. These children were all part of a larger research initiative evaluating the effectiveness of two school-based programs designed to reduce bullying and victimization among schoolchildren. A total of 731 children (376 girls and 355 boys) in the 3rd and 4th grades participated in Year 1 of the broader study. Of these, 464 (244 girls and 220 boys) continued to participate in Year 2. This attrition rate (37%) is similar to the overall rate of mobility in and out of schools in the district as a whole that particular year (28%). Children who did not return to the project in Year 2 did not differ from those who participated in both years of the study on a self-report measure of victimization (i.e., being victimized themselves) during Year 1,  $F(1, 581) = 2.53, p = .112$ . However, those who exited the study before Year 2 were more likely to receive free lunch,  $\chi^2(2, N = 731) = 20.30, p < .001$ , performed lower on standardized achievement tests,  $F(1, 613) = 23.76, p < .001$ , and had less positive peer relations as judged by their teachers,  $F(1, 627) = 12.96, p < .001$ , during Year 1 than children who remained in the study both years. Although these biases in the final sample were unavoidable due to the high rate of mobility of students out of the participating elementary schools between the 2 years of the study, the results presented below may not generalize to students from low-income families who are not able to remain in a consistent educational setting for an extended amount of time.

Participants with missing data (i.e., because they were absent from the classroom on the day of survey administration) or highly questionable response patterns (i.e., because they had responded in diagonal patterns on the scantron survey form or had indicated a single response choice for all items) on any of the measures used in this study were dropped from analyses, leaving a total of 296 children (156 girls and 140 boys) with complete data on all measures at both time points. Students who did not have complete data (i.e., who were missing one or multiple questionnaires)

were absent more often,  $F(1, 459) = 21.42, p < .001$  and  $F(1, 455) = 13.98, p < .001$ , for years 1 and 2 respectively, were more likely to receive free lunch,  $\chi^2(2, N = 464) = 18.30, p < .001$  and  $\chi^2(2, N = 464) = 26.49, p < .001$ , for years 1 and 2 respectively, performed lower on standardized achievement tests,  $F(1, 418) = 4.24, p < .05$  and  $F(1, 431) = 18.63, p < .001$ , for years 1 and 2 respectively, and had less positive peer relations as judged by their teachers,  $F(1, 414) = 31.60, p < .001$  and  $F(1, 445) = 10.62, p = .001$ , for years 1 and 2 respectively, than students who completed all of the measures. Therefore, similar selection factors were involved with this further reduction of the sample size as with the attrition between school years noted above. Many children were absent on days of data collection, and the few students with invalid response patterns may have had difficulty reading the questionnaires.

During the first year of the study, 43.2% ( $n = 128$ ) and 56.8% ( $n = 168$ ) of the children in the final sample were in the 3rd and 4th grades, respectively. Ethnicity for the final sample, as recorded in school records, was 63.2% White, non-Hispanic, 16.6% African American, 17.6% Hispanic American, 1.7% Native American, and 1% Asian American. As an indicator of socioeconomic status, 39.2% of children were receiving free lunches and 12.5% were eligible for reduced fee lunch. These demographics closely approximate the ethnic and socioeconomic distributions of the entire school district's enrollment.

### Procedure

Written parental permission to participate in the larger study on violence prevention, in which this study was embedded, was requested at the beginning of each school year. Overall about 70% of parents gave permission. Children were allowed to decline participation at each data collection session, although few did so. Children completed self-report questionnaires during two separate sessions over a 4 week period in the spring semester for 2 consecutive years ("T1" and "T2" will be used hereafter to refer to the two data collection points that occurred 1 year apart). The child report measures were administered within the classroom setting while children who did not have parental consent to participate worked on their school assignments. Regular classroom teachers or research assistants read the instructions aloud (as well as specific items if it was deemed necessary for the valid completion of the surveys) and were available to answer any questions the children might have. Before completing the surveys, children were informed that no one in their school would know how any one student answered the questions, and

they were asked to erase their name from the top of the survey (a participant identification number was used to track children during the course of the study). In addition, children were able to place their questionnaires directly into an envelope with the rest of their classmates' forms at the end of the administration so that confidentiality would be preserved. The Positive and Negative Affect Scale for Children was completed during the initial 30-min session, and a downward extension of the Peer Experiences Questionnaire was administered during the second 45-min period (an additional survey concerning perceptions of the school learning environment was completed during the first session as part of the larger research project). The Teacher-Child Rating scale was completed by teachers in January of each school year, 2-3 months prior to the completion of the children's self-report questionnaires. Printed instructions accompanied the teacher surveys, and participating teachers were compensated for their time.

Complete forms of all student and teacher measures were administered, although a subset of scales was selected for inclusion in this study (see below). Data reported here came only from the 296 children for whom all measures were complete.

## Measures

### *Victimization of Self Scale (VS)*

A downward extension of the Peer Experiences Questionnaire (PEQ) designed by Vernberg, Jacobs, and Hershberger (1999) to assess peer victimization and attitudes concerning bullying was used to examine self-reported victimization. The downward extension of the PEQ, which contains both the Victimization of Self (VS) scale and the Aggression is Legitimate and Warranted (AL) scale discussed below, was created by modifying all the items on the original questionnaire to be at or below a 3rd grade reading level. Thus, the original version of the PEQ and the downward extension contained parallel versions of the same number of items, differing in reading difficulty. Previous research has indicated that both self- and peer-report measures of victimization show significant associations with measures of psychosocial maladjustment (Crick & Bigbee, 1998) and that self-report and observational measures converge in identifying children who have experienced significant difficulties with victimization (Kochenderfer & Ladd, 1997). The VS scale comprises 10 items that address overt victimization (e.g., "A kid hit, kicked, or pushed me in a mean way"), relational victimization (e.g., "A kid told lies about me so other kids wouldn't like me"), and general victimization (e.g., "A kid

teased me in a mean way"). Children were instructed to indicate on a 5-point scale (*never, once or twice, a few times, about once a week, and a few times a week*) how often each of the experiences had happened to them over the course of the past 3 months. A specific point in time, such as winter vacation, was offered to provide the children with a more concrete reference point. An overall score for total victimization (sum of all 10 items) was computed, such that higher scores indicate more severe victimization. Sufficient internal consistency for the total VS scale has been reported (Cronbach's  $\alpha = .85$ ) with a sample of early adolescents (Vernberg et al., 1999) and was confirmed within this investigation (Cronbach's  $\alpha = .91$ ).

### *Aggression is Legitimate and Warranted Scale (AL)*

The Aggression is Legitimate and Warranted (AL) scale comprises 7 items from the downward extension of the Peer Experiences Questionnaire (Vernberg et al., 1999), which require students to indicate their level of agreement with statements suggesting that aggression and victimization of peers is a legitimate and warranted action (e.g., "A kid who gets picked on must have done something wrong," and "It's okay to be a bully sometimes"). Children were instructed to indicate their level of agreement on a 4-point scale (*I don't agree at all, I agree a little, I agree a lot, and I completely agree*). Responses to all 7 items were summed to compute the AL scale, such that higher scores indicate a greater acceptance of the attitude that aggression is legitimate and that victims deserve to be bullied. Adequate internal reliability (Cronbach's  $\alpha = .88$ ) was reported for the AL scale with a sample of early adolescents (Vernberg et al., 1999), and Cronbach's  $\alpha$ s of .80 and .83 were found in the current investigation at two time points.

### *Teacher-Child Rating Scale (T-CRS) Version 2.1.*

The Teacher-Child Rating scale (T-CRS; Primary Mental Health Project, 1999) is a 32-item teacher-report screening measure of social, emotional, and behavioral adjustment. Two subscales from the T-CRS were included in this study: *Shyness/Anxiety* (the degree to which a child appears withdrawn, shy, and anxious) and *Peer Social Negative* (the degree to which a child is disliked by his/her peers and the degree to which a child does not possess adaptive social skills). Each subscale contains four items, and teachers are asked to rate how accurately they think each item describes a particular student on a 5-point scale ranging from *strongly disagree* (1) to *strongly agree* (5). Thus, higher scores on each of the factors represent a

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

Variable	Total <sup>a</sup>		Males <sup>b</sup>		Females <sup>c</sup>		3rd Graders <sup>d</sup>		4th Graders <sup>e</sup>		Range
	M	SD	M	SD	M	SD	M	SD	M	SD	
Total victimization—T1	15.63	7.40	15.66	7.39	15.59	7.44	14.73	6.88	16.31	7.73	10–50
Total victimization—T2	15.22	7.41	15.61	9.01	14.87	5.61	13.68	4.38	16.40	8.90	10–50
Negative affect—T1	26.93	10.19	26.48	10.23	27.33	10.18	26.13	10.03	27.53	10.31	15–68
Negative affect—T2	26.47	10.40	26.06	11.32	26.83	9.51	24.30	8.89	28.11	11.16	15–71
Shyness/withdrawal—T1	8.09	3.29	8.48	3.45	7.74	3.11	7.19	2.97	8.77	3.37	4–18
Shyness/withdrawal—T2	8.91	3.24	9.42	3.35	8.44	3.08	9.08	3.22	8.77	3.26	4–20
Rejection/social dif—T1	7.00	3.40	7.80	3.55	6.28	3.10	6.21	2.92	7.60	3.62	4–20
Rejection/social dif—T2	8.36	4.04	9.16	4.37	7.64	3.58	8.26	3.62	8.44	4.34	4–20
Aggression is legit—T1	10.00	3.68	10.42	3.82	9.62	3.53	9.34	3.47	10.50	3.78	7–28
Aggression is legit—T2	11.07	4.94	12.01	5.72	10.22	3.95	10.71	5.03	11.34	4.87	7–28

Note. T1 = Time 1; T2 = Time 2; rejection/social dif = peer rejection/social difficulty; Aggression is legit = attitude that aggression is legitimate and warranted.

<sup>a</sup>n = 296.

<sup>b</sup>n = 140.

<sup>c</sup>n = 156.

<sup>d</sup>n = 128; 3rd graders during first year of study.

<sup>e</sup>n = 168; 4th graders during first year of study.

more negative evaluation (i.e., more severe shyness/social withdrawal and social skills deficits/peer rejection). Internal consistency was adequate at two time points during this investigation: *Shyness/Anxiety* (Cronbach's  $\alpha$ s = .70 and .76), and *Peer Social Negative* (Cronbach's  $\alpha$ s = .89 and .90). Previous research has indicated the validity of teacher nomination procedures in general when compared with self-report measures, peer ratings, and observational data (Ollendick, Oswald, & Francis, 1989). The *Peer Social Negative* scale will be referred to as the *Peer Rejection/Social Difficulty* scale throughout the remainder of this paper, and the *Shyness/Anxiety* scale will be referred to as *Shyness/Social Withdrawal* to promote overall readability and compatibility with the language used in the proposed mediational model.

*Positive and Negative Affect Scale for Children (PANAS-C)*

The Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999) consists of 27 adjectives that describe common emotions, and children must respond on a 5-point scale (*not at all, a little, some, quite a bit, and extremely*) indicating how often they have experienced each particular feeling during the past few weeks. A two-factor solution was supported during scale development, with 12 items representing positive affect (e.g., happy, calm, excited) and 15 items describing negative affect (e.g., sad, frightened, mad) (Laurent et al., 1999). Only the Negative Affect (NA) Scale was used in this

study because of the focus on the prediction of internalizing distress rather than on the differentiation between depression and anxiety. The 15 items on the NA scale were summed, meaning that higher values indicate greater negative emotions. Adequate internal reliability and good convergent and discriminant validity have been demonstrated with comparisons to well-established self-report measures and clinical diagnoses of depression and anxiety (Joiner & Lonigan, 2000; Laurent et al., 1999; Lonigan, Hooe, David, & Kistner, 1999). Sufficient internal consistency was found for the NA Scale (Cronbach's  $\alpha$ s of .88 and .87) at two time points within this investigation.

**RESULTS**

**Gender and Grade Differences in Victimization, Adjustment, and Attitudes**

Means, standard deviations, and observed ranges for all variables are presented (overall, by gender, and by grade) in Table I. A 2 (Gender)  $\times$  2 (Grade) ANOVA was performed with each of the 10 primary variables as dependent variables to determine if there were significant gender or grade differences in victimization by peers, psychosocial adjustment, and attitudes concerning aggression. An alpha level of .05 was used to determine significance for most statistical tests in this study; however, a more conservative alpha level of .005 was chosen for this series of analyses to control the familywise Type I error rate (Bonferroni correction). The following significant main

**Table II.** Intercorrelations Among Variables at Time 1 and Time 2

Variable	SHY-T1	SOC-T1	VICT-T1	LEG-T1	NA-T1	SHY-T2	SOC-T2	VICT-T2	LEG-T2
SHY-T1	—								
SOC-T1	.486***	—							
VICT-T1	.106	.308***	—						
LEG-T1	.079	.170**	.247***	—					
NA-T1	.159**	.290***	.393***	.259***	—				
SHY-T2	.245***	.171**	.109	.023	.175**	—			
SOC-T2	.227***	.448***	.249***	.098	.313***	.481***	—		
VICT-T2	.132*	.151**	.406***	.126*	.271***	.180**	.208***	—	
LEG-T2	-.016	.151**	.142*	.481***	.242***	.095	.133*	.035	—
NA-T2	.151**	.190**	.282***	.230***	.446***	.174**	.242***	.506***	.280***

Note. Correlations in italic are stability coefficients. T1 = Time 1; T2 = Time 2; SHY = shyness/social withdrawal; SOC = peer rejection/social difficulty; VICT = total victimization by peers; LEG = attitude that aggression is legitimate and warranted; NA = negative affect.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

effects were found: older children reported greater negative affect compared to younger children at T2  $F(1, 292) = 9.93, p = .002$ , older children reported greater victimization by peers than younger children at T2,  $F(1, 292) = 10.98, p = .001$ , boys agreed with the attitude that aggression is legitimate more than girls at T2  $F(1, 292) = 10.03, p = .002$ , older children were more shy/withdrawn than younger children at T1,  $F(1, 292) = 18.90, p < .001$ , boys had more difficulty with social skills deficits and peer rejection than girls at both time points,  $F(1, 292) = 19.36, p < .001$ ;  $F(1, 292) = 11.89, p = .001$  for T1 and T2, respectively, and older children exhibited a greater lack of social skills and greater peer rejection than younger children at T1,  $F(1, 292) = 14.64, p < .001$ . No gender by grade interactions were significant. Because of these significant gender and grade effects within this set of variables, effects for gender and grade were controlled in Step 1 in each of the following regression analyses.

### Intercorrelations Among Variables

Intercorrelations among the primary variables are listed in Table II. Stability coefficients (i.e., test-retest reliabilities over a 1 year interval) were all significant (ranging from  $r = .25$  for shyness/social withdrawal to  $r = .48$  for the attitude that aggression is legitimate and warranted), indicating a moderate level of stability for both the self-report and teacher-report measures (all stability coefficients were greater than  $r = .40$  except for shyness/social withdrawal). The moderately large coefficients for the teacher-report scales are especially notable because different teachers completed the T-CRS on each student at the two time points.

As predicted from prior research, victimization by peers at T1 was positively associated with negative affect

and peer rejection/social skills deficits at both time points (a similar pattern of relationships was found for victimization at T2, with the addition of a positive relationship with shyness/social withdrawal at both time points). In addition, being victimized by peers at T1 correlated positively with the attitude that aggression is legitimate at both T1 and T2, indicating that at least some children who become victims believe that they are deserving of such maltreatment or that bullying is a legitimate action in general (for victimization at T2, such a relationship only existed with the “aggression is legitimate” scale at T1). Of particular note, negative affect at T2 was significantly correlated with all other variables in the study (at both time points), an important consideration when conducting hierarchical regression procedures to test for mediational processes (see below).

### Testing the Mediational Model

#### *Predicting negative affect at Time 2*

To test the mediational model outlined in Fig. 1 with respect to the prediction of negative affect at T2, procedures advocated by Baron and Kenny (1986) and Boivin et al. (1995) were followed. Baron and Kenny (1986) stated that four conditions must be met to suggest a mediational process: (a) the independent variable must predict the mediator, (b) the independent variable must predict the dependent variable, (c) the mediator must predict the dependent variable even after controlling for the effect of the independent variable upon the dependent variable, and (d) the effect of the independent variable upon the dependent variable must decrease or disappear entirely when controlling for the effect of the mediator upon the

dependent variable. Further, to test for the significance of the indirect path in the case of partial mediation (i.e., where the effect of the independent variable upon the dependent variable does not disappear entirely), Baron and Kenny (1986) suggested using a version of the Sobel test ( $z$  value =  $ab/\sqrt{b^2s_a^2 + a^2s_b^2 + s_a^2s_b^2}$ ), where  $a$  is the path from the independent variable to the mediator,  $b$  is the path from the mediator to the dependent variable,  $s_a$  is the standard error of path  $a$ , and  $s_b$  is the standard error of path  $b$ . This test is mathematically equivalent to the drop in variance accounted for by the predictor after entry of the mediator.

Because it was hypothesized that the change in predictors from T1 to T2 would add significantly to the prediction of negative affect after controlling for the contribution of the predictors at T1, residualized change scores were computed for each of the predictors as suggested by Boivin et al. (1995) and Cohen and Cohen (1983). To calculate these residualized scores, the T2 measure was regressed on the T1 measure for each predictor to yield standardized residuals (i.e., the T2 measure was the dependent variable, and the T1 measure was the independent variable). For example, victimization by peers at T2 was regressed on victimization by peers at T1 to yield a measure of change in victimization over time.

The first condition (i.e., that the independent variable predict the mediator) was tested for each of the mediating steps in the model. For example, shyness/social withdrawal must predict peer rejection/social difficulty, peer rejection/social difficulty must predict victimization by peers, and victimization by peers must predict the attitude that aggression is legitimate and warranted. Gender and grade were entered in Step 1 of each of the analyses to control for relations between these demographic variables and the dependent variable. The appropriate independent variable was entered in Step 2, with the proposed mediator as the dependent variable. With regard to the predictors at T1, this condition was met at all steps of the model: shyness/social withdrawal-T1 predicted peer rejection/social difficulty-T1 ( $\Delta R^2 = .18, p < .001$ ), peer rejection/social difficulty-T1 predicted victimization by peers-T1 ( $\Delta R^2 = .09, p < .001$ ), and victimization by peers-T1 predicted the attitude that aggression is legitimate-T1 ( $\Delta R^2 = .05, p < .001$ ).

The residualized change scores also needed to meet condition A. For example, change over time in shyness/social withdrawal must predict change in peer rejection/social difficulty, change in peer rejection/social difficulty must predict change in victimization by peers, and change in victimization by peers must predict change in the attitude that aggression is legitimate and warranted. This condition was met at all steps of the model, except for

the final step: change in shyness/social withdrawal predicted change in peer rejection/social difficulty ( $\Delta R^2 = .20, p < .001$ ), and change in peer rejection/social difficulty predicted change in victimization by peers ( $\Delta R^2 = .02, p < .05$ ); however, change in victimization by peers did not predict change in the attitude that aggression is legitimate ( $\Delta R^2 = .00, p = .38$ ). Consequently, the last step of the mediational model with regard to change over time in attitudes toward aggression was not tested in the regression analysis, although a main effect for change in attitudes was evaluated.

The remaining three conditions for mediation were then tested using a series of hierarchical regression equations. Gender and grade were entered in Step 1 of all regression analyses of this investigation to control for the main effects of these variables upon the measure of negative affect. Shyness/social withdrawal at T1 was then entered (Step 2), followed by peer rejection/social difficulty at T1 (Step 3), victimization by peers at T1 (Step 4), the attitude that aggression is legitimate and warranted at T1 (Step 5), change in shyness/social withdrawal from T1 to T2 (Step 6), change in peer rejection/social difficulty from T1 to T2 (Step 7), change in victimization by peers from T1 to T2 (Step 8), and change in the attitude that aggression is legitimate and warranted from T1 to T2 (Step 9).

Overall, the proposed model accounted for 36.4% of the variance in negative affect at T2 (see Table III). All predictor variables contributed uniquely, and in the predicted direction, to negative affect when entered at the appropriate step. Children who exhibited greater shyness/social withdrawal, who had difficulty with social skills and experienced peer rejection, who were victimized by their peers, and who believed that aggression is a legitimate and warranted action (i.e., that they must have done something to deserve being victimized) experienced elevated levels of negative affect (see the standardized regression weights in Table III). These relationships held true both when considering the levels of these variables at T1 and change in these variables from T1 to T2 (e.g., both children who experienced high levels of victimization at T1 and children whose level of victimization increased from T1 to T2 reported higher levels of negative affect at T2).

Inspection of the individual steps of the hierarchical regression equations revealed broad support for the proposed mediational model. In Step 2, shyness/social withdrawal-T1 had a significant effect upon negative affect-T2 (accounting for 1.3% of the total variance). Peer rejection/social difficulty-T1 significantly improved the prediction of negative affect-T2 when entered in Step 3 (accounting for 1.7% of the total variance), and the effect of shyness/social withdrawal-T1 was reduced to a nonsignificant

**Table III.** Hierarchical Regression Analyses Predicting Self-assessed Negative Affect at T2 From Measures of Shyness, Peer Rejection, Victimization, and the Attitude That Aggression is Legitimate and Warranted at T1, and Changes in Those Measures From T1 to T2

Step	Variable entered	Cumulative $R^2$	$R^2$ change	Predictors in equation	$sr^2$	$\beta$
1	GENDER	.034**	.034**	GENDER	.001	-0.03
2	GRADE	.047**	.013*	GRADE	.032**	0.18**
				SHY-T1	.002	-0.04
3	SOCIAL-T1	.064**	.017*	GRADE	.021*	0.15*
				SHY-T1	.013*	0.12*
				GENDER	.004	-0.07
4	VICTIM-T1	.116***	.052***	GRADE	.017*	0.13*
				SHY-T1	.002	0.05
				SOCIAL-T1	.017*	0.13*
				SOCIAL-T1	.017*	0.15*
5	LEGIT-T1	.138***	.022**	GENDER	.003	-0.05
				GRADE	.014*	0.12*
				SHY-T1	.003	0.07
				SOCIAL-T1	.003	0.07
				VICTIM-T1	.052***	0.24***
6	SHY-CH	.158***	.020**	GENDER	.004	-0.07
				GRADE	.009	0.10
				SHY-T1	.004	0.07
				SOCIAL-T1	.002	0.06
				VICTIM-T1	.037**	0.21**
				LEGIT-T1	.022**	0.16**
7	SOCIAL-CH	.170***	.012*	GENDER	.007	-0.09
				GRADE	.013*	0.12*
				SHY-T1	.004	0.07
				SOCIAL-T1	.002	0.06
				VICTIM-T1	.032**	0.19**
				LEGIT-T1	.023**	0.16**
				SHY-CH	.020**	0.15**
8	VICTIM-CH	.320***	.149***	GENDER	.008	-0.09
				GRADE	.013*	0.12*
				SHY-T1	.003	0.07
				SOCIAL-T1	.003	0.07
				VICTIM-T1	.027**	0.18**
				LEGIT-T1	.022**	0.16**
				SHY-CH	.006	0.09
				SOCIAL-CH	.012*	0.13*
9	LEGIT-CH	.364***	.045***	GENDER	.011*	-0.11*
				GRADE	.003	0.06
				SHY-T1	.001	0.04
				SOCIAL-T1	.005	0.09
				VICTIM-T1	.031***	0.19***
				LEGIT-T1	.022**	0.16**
				SHY-CH	.001	0.04
				SOCIAL-CH	.007	0.10
				VICTIM-CH	.150***	0.40***
GENDER	.017**	-0.14**				
GRADE	.002	0.05				
SHY-T1	.003	0.06				
SOCIAL-T1	.003	0.06				
VICTIM-T1	.031***	0.19***				
LEGIT-T1	.023**	0.16**				
SHY-CH	.000	0.02				
SOCIAL-CH	.006	0.09				
VICTIM-CH	.158***	0.41***				
LEGIT-CH	.045***	0.22***				

Note. SHY-T1 = shyness/social withdrawal, Time 1; SOCIAL-T1 = peer rejection/social difficulty, Time 1; VICTIM-T1 = total victimization by peers, Time 1; LEGIT-T1 = attitude that aggression is legitimate and warranted, Time 1; SHY-CH = change in shyness/social withdrawal from T1 to T2; SOCIAL-CH = change in peer rejection/social difficulty from T1 to T2; VICTIM-CH = change in total victimization by peers from T1 to T2; LEGIT-CH = change in attitude that aggression is legitimate and warranted from T1 to T2;  $sr^2$  = squared semipartial correlations.  
 \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

0.2% of unique variance. Therefore, the effect of shyness/social withdrawal-T1 was almost completely mediated by the presence of specific social skills deficits and peer rejection. Likewise, the effect of peer rejection/social difficulty-T1 on negative affect-T2 was mediated by victimization by peers-T1 (Step 4), as the latter contributed a significant 5.2% to the prediction of negative affect-T2, whereupon the former's contribution was reduced to a nonsignificant 0.3% of unique variance. Finally, the belief that aggression is legitimate at T1 accounted for an additional 2.2% of the variance in negative affect-T2 (Step 5), and the effect of actual victimization by peers was significantly reduced (from 5.2% in Step 4 to 3.7% in Step 5), indicating the partial mediation of victimization by a specific attitude concerning aggression in the prediction of negative affect.

A similar pattern of relationships was supported when changes in predictor variables from T1 to T2 were added into the regression model. Together, change over time in these variables accounted for an additional 22.6% of the total variance in negative affect-T2, over and above the contribution of the variables at T1. Change in shyness/social withdrawal significantly predicted an additional 2.0% of the total variance (Step 6); however, the contribution of change in shyness/social withdrawal reduced to a nonsignificant 0.6% (Step 7) when change in peer rejection/social difficulty was entered (the latter accounted for 1.2% of the total variance), indicating the presence of mediation. Similarly, change in victimization by peers (accounting for 15.0% of the total variance) mediated the effect of change in peer rejection/social difficulty (reducing its unique contribution from 1.2% in Step 7 to a nonsignificant 0.7% in Step 8). Although change in the attitude that aggression is legitimate did not meet screening criteria for mediation of the change in victimization-negative affect relation, this variable exerted a strong main effect on negative affect-T2, accounting for an additional 4.5% of unique variance (Step 9). All of the mediational paths that appeared in the prediction of negative affect at Time 2 were confirmed as significant indirect effects by the Sobel test.

#### *Predicting Change in Negative Affect*

When predicting change in negative affect from T1 to T2, identical hierarchical regression procedures were followed (i.e., variables were entered in the same order as above; see Table IV). The dependent variable in this set of analyses was a residualized change score, calculated by regressing negative affect-T2 on negative affect-T1 (i.e., negative affect-T1 was the independent variable). An alter-

native procedure recommended by Campbell and Kenny (1999) entails statistical equating by including the Time 1 variable as a covariate in Step 1 of the multiple regression analysis with the Time 2 variable as the outcome variable. Following this approach led to the same results as those presented here. Because there was significant stability of the negative affect measure from T1 to T2 ( $r = .45$ ), a large proportion of variance in negative affect at T2 was removed through this partialling procedure. Although 23.9% of the remaining variance was explained by the predictors overall, the mediational model was not supported in explaining change in negative affect. Instead, children who reported an increased amount of victimization and who indicated increasing agreement with the attitude that aggression is legitimate from T1 to T2, also reported an increase in negative affect over the same period of time. Change in victimization by peers accounted for 14.7% of the unique variance in the residualized negative affect variable (Step 8), and change in the attitude that aggression is legitimate explained an additional 3.0% (Step 9). However, shyness/social withdrawal and peer rejection/social difficulty were not significant contributors to the model.

#### **Testing the "Vicious Cycle" Hypothesis**

Two additional hierarchical regression analyses were conducted to test whether negative affect at T1 and change in negative affect from T1 to T2 predicted greater levels of shyness/social withdrawal and victimization by peers at T2. Gender and grade were entered in Step 1 of each of these analyses to control for possible influences upon the dependent variables. The level of the relevant dependent variable (shyness/social withdrawal or victimization) at T1 was then entered in Step 2 to focus on the prediction of variance that was not already captured by the stability of the constructs. Negative affect at T1 was entered in Step 3, and the residualized change score representing change in negative affect from T1 to T2 was subsequently entered in Step 4. With regard to the direct prediction of victimization at T2 (after controlling for the level of victimization at T1), negative affect at T1 ( $\beta = .13$ ,  $\Delta R^2 = .01$ ,  $p < .05$ ) and change in negative affect from T1 to T2 ( $\beta = .38$ ,  $\Delta R^2 = .14$ ,  $p < .001$ ) were both significant predictors. Furthermore, in the prediction of shyness/social withdrawal at T2 (after controlling for the level of shyness/social withdrawal at T1), negative affect at T1 was a significant predictor ( $\beta = .15$ ,  $\Delta R^2 = .02$ ,  $p < .01$ ), whereas change in negative affect from T1 to T2 was marginally significant ( $\beta = .11$ ,  $\Delta R^2 = .01$ ,  $p = .05$ ). Therefore, the experience of negative affect was shown to predict future victimization by peers both directly and

**Table IV.** Hierarchical Regression Analyses Predicting Change in Self-assessed Negative Affect From T1 to T2 From Measures of Shyness, Peer Rejection, Victimization, and the Attitude That Aggression is Legitimate and Warranted at T1, and Changes in Those Measures From T1 to T2

Step	Variable entered	Cumulative $R^2$	$R^2$ change	Predictors in equation	$sr^2$	$\beta$
1	GENDER	.029*	.029*	GENDER	.000	-0.01
2	GRADE	.031*	.003	GRADE	.028**	0.17**
				SHY-T1	.000	-0.02
3	SOCIAL-T1	.032	.000	GRADE	.023*	0.16*
				SHY-T1	.003	0.05
				GENDER	.000	-0.02
4	VICTIM-T1	.041*	.010	GRADE	.022*	0.15*
				SHY-T1	.002	0.05
				SOCIAL-T1	.000	0.02
				GENDER	.000	-0.01
5	LEGIT-T1	.048*	.007	GRADE	.020*	0.15*
				SHY-T1	.002	0.05
				SOCIAL-T1	.000	-0.02
				VICTIM-T1	.010	0.10
				GENDER	.000	-0.02
6	SHY-CH	.059*	.010	GRADE	.017*	0.14*
				SHY-T1	.002	0.06
				SOCIAL-T1	.000	-0.02
				VICTIM-T1	.006	0.09
				LEGIT-T1	.007	0.09
				GENDER	.001	-0.04
7	SOCIAL-CH	.062*	.003	GRADE	.020*	0.15*
				SHY-T1	.002	0.05
				SOCIAL-T1	.000	-0.02
				VICTIM-T1	.004	0.07
				LEGIT-T1	.007	0.09
				SHY-CH	.010	0.10
				GENDER	.001	-0.04
8	VICTIM-CH	.209***	.147***	GRADE	.020*	0.15*
				SHY-T1	.002	0.06
				SOCIAL-T1	.000	-0.03
				VICTIM-T1	.005	0.08
				LEGIT-T1	.007	0.09
				SHY-CH	.004	0.07
				SOCIAL-CH	.003	0.06
				GENDER	.003	-0.06
9	LEGIT-CH	.239***	.030**	GRADE	.006	0.08
				SHY-T1	.000	0.02
				SOCIAL-T1	.000	-0.00
				VICTIM-T1	.005	0.08
				LEGIT-T1	.007	0.09
				SHY-CH	.001	0.03
				SOCIAL-CH	.001	0.03
				VICTIM-CH	.147***	0.40***
				GENDER	.005	-0.08
10	LEGIT-CH	.239***	.030**	GRADE	.005	0.08
				SHY-T1	.001	0.04
				SOCIAL-T1	.000	-0.02
				VICTIM-T1	.005	0.08
				LEGIT-T1	.008	0.09
11	LEGIT-CH	.239***	.030**	SHY-CH	.000	0.01
				SOCIAL-CH	.001	0.03
				VICTIM-CH	.154***	0.41***
				LEGIT-CH	.030**	0.18**
				LEGIT-CH	.030**	0.18**

Note. SHY-T1 = shyness/social withdrawal, Time 1; SOCIAL-T1 = peer rejection/social difficulty, Time 1; VICTIM-T1 = total victimization by peers, Time 1; LEGIT-T1 = attitude that aggression is legitimate and warranted, Time 1; SHY-CH = change in shyness/social withdrawal from T1 to T2; SOCIAL-CH = change in peer rejection/social difficulty from T1 to T2; VICTIM-CH = change in total victimization by peers from T1 to T2; LEGIT-CH = change in attitude that aggression is legitimate and warranted from T1 to T2;  $sr^2$  = squared semipartial correlations. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

indirectly through the mediational pathway beginning with shyness/social withdrawal.

## DISCUSSION

The proposed mediational model was largely supported in predicting negative affect at T2, but only when negative affect at T1 was not taken into consideration. Using unadjusted negative affect at T2 as the dependent variable, children who exhibited shyness/social withdrawal, who were rejected and victimized by peers, and who held the belief that aggression is legitimate and warranted at T1 reported elevated levels of negative affect at T2. In addition, children who exhibited an increase of social withdrawal, who experienced an increase of peer rejection and victimization, and who increased their belief in the attitude that aggression is legitimate and warranted from T1 to T2, reported elevated levels of negative affect at T2. Moreover, the specific mediational pathways were supported. As expected, the contribution of shyness/social withdrawal in predicting negative affect was explained by the effect of peer rejection/social difficulties on negative affect, which was then mediated by the experience of actual victimization. The relationship between victimization and negative affect was, in turn, partially explained by the correlation between the attitude that aggression is legitimate and warranted and the later experience of negative affect. The first two steps of this mediational process were also supported when changes in shyness, rejection, victimization, and attitudes from T1 to T2 were entered into the equation. Although change in the attitude that aggression is legitimate did not mediate the relationship between change in victimization and negative affect at T2, change in this attitude set did predict additional variance in negative affect. This suggests an important association between shifts in attitudes toward aggression and internalizing symptoms.

Results using change in negative affect from T1 to T2 as the dependent variable further emphasize the importance of peer victimization and attitudes toward aggression in understanding the role of bully-victim problems in psychological development. Here, effects for earlier components of the mediational model disappeared, but direct effects for changes in peer victimization and attitudes toward aggression remained. In short, children reported increased negative affect if they experienced an increase in peer victimization or developed a stronger belief that aggression is an acceptable and warranted form of social behavior. The relatively high stability of the negative affect measure ( $r = .45$ ) may have worked against finding mediational effects, but makes the explanatory power of victimization and attitudes even more notable.

In accord with previous research that has suggested the presence of cyclical effects between victimization and psychological maladjustment (e.g., Hodges & Perry, 1999; Vernberg, 1990), current results indicated reciprocal influences of negative affect upon the development of future shyness/social withdrawal and victimization by peers. Such findings underscore the importance of the suggested targets of intervention discussed below, which focus on decreasing the occurrence of victimization as well as on increasing children's social skills (i.e., decreasing shyness/social withdrawal) and promoting effective coping strategies to manage emotional distress (i.e., decreasing negative affect).

When comparing these results with those of Boivin et al. (1995), similar patterns of mediation emerged even though entirely different measures of similar constructs were obtained (e.g., Boivin et al. employed peer-report measures of victimization and withdrawal, whereas the current investigation used a self-report measure of victimization and a teacher-report indicator of shyness/social withdrawal). Therefore, this congruence between the two sets of analyses provides additional evidence for the validity of the self- and teacher-report measures of victimization and adjustment used in this study. Furthermore, the negative affect scale of the PANAS-C appears to be related to measures of victimization in a manner similar to other depression inventories. Thus, these findings support the proposition that the PANAS-C is a valid instrument for estimating internalizing distress. In addition, the present model extends the model proposed by Boivin et al. (and confirms the findings reported by Graham and Juvonen, 1998) in showing that cognitive mediators (e.g., attitudes/attribution) are a significant component of the pathway from victimization to adverse consequences.

Future studies should continue to examine specific hypotheses generated from social information processing theory (Crick & Dodge, 1994) to help further explain the mediating influence of cognitive structures in the pathway from victimization to the experience of negative affect. In addition, one might expect that victimization reduces interpersonal sensitivity and that this deficit mediates the progress from victimization to victimizing (Fonagy, Target, Steele, & Steele, 1997). Such a theory would emanate from the concept of *reflective function*, or the capacity to attribute mental states to others, which provides an additional reason to view attitudes toward aggression as a critical cognitive mechanism and potentially explains how victimization may contribute to pathogenic cognitive processes (Fonagy & Target, 1997). Specifically, experiencing that one's own mental states are of little concern to one's peers might contribute to the development of relational strategies that similarly pay scant regard to

the subjective states of others; a coping stance of avoiding contemplating the frightening malevolent mental states of hostile peers may extend to more general limitations in the capacity to envision mental states in others, thus opening the door to violent interpersonal behavior (Fonagy et al., 1997). Therefore, researchers should delineate and test models that would account for specific pathways leading to the variety of possible responses to being victimized by peers (e.g., experiencing internalized distress, becoming an aggressor oneself, or a combination of these two outcomes).

Important implications for educational and psychological practice can be drawn from these findings. First, support for the present model suggests that the intrapersonal characteristic of shyness might, in fact, be one of the first steps along the pathway to peer rejection and harassment, as it may leave a child emotionally vulnerable and without friends to protect them from aggressive peers. Therefore, social skills training and active attempts to promote inclusion and friendships for shy and socially withdrawn children during the early elementary school years may be a crucial intervention in preventing victimization and the negative consequences that follow from such experiences. Likewise, as negative affect has been shown to predict shyness and future victimization, interventions that teach children to cope effectively with their negative emotions may be an additional mechanism by which to curb the "vicious cycle" of victimization and maladjustment.

Second, present findings highlight the importance of cognitive mediators in the development of internalizing symptoms following victimization (overt and relational) by peers. Schoolwide interventions that educate children with regard to the inappropriateness of aggression and to the fact that no child deserves to be victimized may be able to prevent some victimized children from developing a negative attributional style, and therefore, from experiencing elevated negative affect. However, even though cognitive attributes do appear to play a role in partially mediating the relationship between victimization at T1 and negative affect a year later, victimization continued to have a significant effect upon the development of negative affect even after attitudes concerning aggression were taken into account (and that particular mediation pathway was not supported when speaking about the effects of changes in victimization and attitudes in predicting negative affect). Thus, intervention components that attempt to reduce bullying behaviors should still be considered critical elements of a program designed to increase children's psychosocial adjustment.

Several limitations of this study must also be mentioned. Although the overall model was tested using data

from multiple informants (i.e., self- and teacher-report), each construct was measured by a single informant (primarily self-report). Students may have underreported the level of victimization experienced as well as their belief in the attitude that aggression is legitimate and warranted to provide a more socially appropriate view of the situation. However, assurances were provided to participants that no one in their schools would see individual responses from any student. Moreover, it has been shown that self-report measures of victimization might result in slightly different predictive patterns than peer-report measures (see Graham & Juvonen, 1998). This is likely due to differing vantage points of various observers, and thus, each particular type of report may provide a unique valid measurement of interpersonal dynamics among children. Further, when including several measures from one respondent in regression analyses, there is an increased chance of finding significance due to shared method variance. Nevertheless, effects of shared method variance due to the presence of several self-report and teacher-report measures were partially reduced through the use of hierarchical regression procedures and the inclusion of residualized change scores (see Hodges & Perry, 1999 and Kochenderfer & Ladd, 1996, for a similar argument). In summary, future tests of the mediational model should take into account peer ratings and should use latent variables in combining reports from several informants (e.g., reports of victimization and rejection by self-, peer-, and teacher-report) so as to further control for shared method variance and biases in reporting (e.g., differing perspectives, socially desirable responding).

Additionally, differences in mediational patterns for overt versus relational forms of victimization might be more explicitly evaluated. Furthermore, this sample was restricted in terms of age range, which limits generalizability of the model to children in grades three through five. As researchers working with adolescents have uncovered significant relationships between victimization and psychosocial maladjustment (e.g., Graham & Juvonen, 1998; Prinstein et al., 2001), and the importance of attitudes in shaping behavior (Vernberg et al., 1999), tests of the specific mediational model should be conducted with older samples to determine the universal and developmentally specific aspects of these processes. Lastly, the nonrandom attrition of participants warrants comment. Some children were necessarily omitted from the analyses because of the high rate of mobility out of the participating elementary schools between the 2 years of the study as well as absences on days of data collection. An additional small group of children may have had difficulty with the reading level of the questionnaires, leading to the deletion of their data due to invalid response patterns. Overall, children who did not have complete data were more likely to receive

free lunch, were absent more often, and scored lower on standardized achievement tests than children whose data were complete. Therefore, the results presented above may not generalize to students from low-income families who are not able to remain in a consistent educational setting for an extended amount of time and who have poorer academic achievement.

In light of the findings from this investigation, educators and clinicians should focus upon multiple steps within these mediational pathways to help prevent internalizing symptoms in elementary school children. Intervention programs in schools should not only strive to reduce the frequency of overt and relational victimization, but should aim to expand children's social skills and to change the attitudes children have regarding the legitimacy and self-blame related to aggression. Modification of these social skills and cognitive mediators may be just as effectual in preventing the development of negative affect and other symptoms as reducing actual levels of victimization.

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## Negative Affect in Victimized Children

173

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