
A longitudinal analysis of patterns of adjustment following peer victimization

LAURA D. HANISH^a AND NANCY G. GUERRA^b

^aArizona State University; and ^bUniversity of California at Riverside

Abstract

This study examined the effects of being victimized by peers on children's behavioral, social, emotional, and academic functioning. We assessed an ethnically diverse sample of 2,064 first, second, and fourth graders and followed them over 2 years, locating 1,469 of the participants at the follow-up. Correlation and partial correlation analyses revealed that prior victimization predicted externalizing, internalizing, and social problems 2 years later for the sample as a whole. However, not all victimized children experienced the same types of outcomes; instead, there was heterogeneity in children's responses to victimization. Using cluster analysis, we identified eight outcome patterns that represented different patterns of functioning. These were labeled as externalizing, internalizing, symptomatic, popular, disliked, absent, low achieving, and high achieving. Discriminant function analyses revealed that the symptomatic, externalizing, and disliked patterns were systematically related to victimization. Moreover, significant gender and age differences in the severity of effects were obtained. The discussion highlights the complexity of victimization effects.

Recently, there has been an increase in public and professional awareness that children can be extremely cruel to one another, whether by words or actions. Rather than being an isolated and rare occurrence, peer victimization occurs quite frequently among youth. In fact, approximately one tenth of children are severely or repeatedly victimized by their peers and many more are victimized less intensely (Hanish & Guerra, 2000a; Olweus, 1978; Perry, Kusel, & Perry, 1988). Further, some children are more likely than others to be targeted for victimization. Most frequently, victimized children are at the bottom of the so-

cial ladder to begin with, being rejected by peers (Crick & Bigbee, 1998; Hanish & Guerra, 2000b; Hodges, Malone, & Perry, 1997), having few friends (Hodges, Boivin, Vitaro, & Bukowski, 1999), and having low self-esteem (Egan & Perry, 1998).

It is easy to imagine how peer victimization could result in serious adjustment problems. By marginalizing children and forcing them outside of the mainstream social group, victimized youngsters may have limited opportunities for affiliation with peers, thereby causing distress and constraining socialization experiences. Indeed, the extant research suggests that peer victimization can result in a number of behavioral, social, academic, and emotional adjustment problems, at least during the elementary school years. For instance, Schwartz, McFadyen–Ketchum, Dodge, Pettit, and Bates (1998) found that victimization predicted teacher and mother reports of aggression, attention problems, and immature and dependent social behaviors concurrently when children were in Grades 3 and 4, as well as 2 years later. Crick and Bigbee (1998) ex-

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Address correspondence and reprint requests to: Laura D. Hanish, Department of Family and Human Development, Arizona State University, P.O. Box 872502, Tempe, AZ 85287-2502; E-mail: Laura.Hanish@asu.edu.

panded on this finding by showing that both overt and relational forms of victimization uniquely predicted concurrent peer rejection in fourth- and fifth-grade boys and girls. In addition, Kochenderfer and Ladd (1996) found that victimization during the fall semester was associated with greater desire to avoid school and lower liking of school during the spring semester for kindergarten children. Finally, several investigators have shown that victimization predicts different aspects of internalizing behavior, including depression and anxiety, withdrawal, and submissiveness (Boivin, Hymel, & Bukowski, 1995; Crick & Bigbee, 1998; Hodges & Perry, 1999; Neary & Joseph, 1994; Olweus, 1993; Slee, 1994).

The present study builds on and expands these previous studies in several ways. First, although it is clear that peer victimization is predictive of a number of adjustment problems, what is less clear is the extent to which these adjustment problems persist over time. Existing studies have relied primarily on correlational (Crick & Bigbee, 1998; Neary & Joseph, 1994; Slee, 1994) and short-term longitudinal (Boivin et al., 1995; Hodges et al., 1999; Hodges & Perry, 1999; Kochenderfer & Ladd, 1996) designs; only a few studies have evaluated how victimization affects children's development over 2 or more years (Olweus, 1993; Schwartz et al., 1998). This paucity of long-term longitudinal research limits conclusions about how enduring the effects of being victimized are, making it difficult to judge the severity of this problem or how it translates into more extreme forms of behavior over the course of development.

Second, in elucidating the effects of peer victimization it is helpful to go beyond models that predict single outcomes (e.g., aggression) or related sets of outcomes (e.g., externalizing behaviors) for victimized children. As has been robustly demonstrated in numerous studies of diverse types of risk factors and outcomes, any risk factor may produce a variety of outcomes (i.e., multifinality; Cicchetti & Rogosch, 1996). Furthermore, different individuals who are exposed to the same risk factor may experience different types or combinations of undesirable outcomes (Durlak, 1998; Egeland, Pianta, & Ogawa, 1996; Erlenmeyer-Kimling & Cornblatt, 1987;

Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Moreover, not all individuals exposed to the risk factor will experience negative outcomes; some, who are often characterized as resilient, may show no meaningful adjustment difficulties (Cowan, Cowan, & Schulz, 1996; Garmezy, 1985; Radke-Yarrow & Brown, 1993; Werner, 1993). For example, some victimized children may react to victimization by demonstrating multiple and diverse behavioral, emotional, social, and academic problems. Others, however, may show more discrete responses, by simply acting out or exhibiting declining academic performance. Still others may show no adjustment problems at all.

Thus, an important task is to evaluate the heterogeneity of victimization outcomes by determining whether there are subgroups of victimized children who experience different types or combinations of outcomes in response to peer victimization. This approach, which is frequently accomplished using cluster analysis, complements traditional correlation or regression analyses by identifying similarities among groups of individuals on a set of variables rather than relations among the variables (Magnusson, 1998). Contemporary models of developmental science have emphasized the importance of identifying patterns of variables that are related to meaningful developmental outcomes (Cairns, Cairns, Rodkin, & Xie, 1998), and recent studies have demonstrated the reliability and validity of this approach (e.g., Gorman-Smith, Tolan, Loeber, & Henry, 1998; Luthar & McMahon, 1996; Rodkin, Farmer, Pearl, & Van Acker, 2000). For instance, in a study of fourth-through sixth-grade suburban and inner-city boys, Rodkin and his colleagues (2000) distinguished six subgroups of children on the basis of teacher ratings of popularity, externalizing and internalizing behaviors, and physical, academic, and social competence. These subgroups were primarily characterized in terms of contrasting elevations on ratings of popularity and aggression and were differentially related to self- and peer perceptions and to social experiences.

Third, little is known about how demographic characteristics affect children's adjustment to peer victimization. Some studies

have found that boys are at greater risk than girls and that younger children are at greater risk than older children for experiencing negative outcomes (Crick, Casas, & Ku, 1999; Schwartz et al., 1998). Other studies, however, have found few gender or age differences in children's response to victimization (Crick & Bigbee, 1998; Kochenderfer & Ladd, 1996). Nevertheless, because demographic factors such as gender and age are differentially associated with children's peer interactions in general as well as with their risk for victimization in particular, it is important to also evaluate the degree to which they are differentially associated with adjustment to victimization.

In the present research, we examined the effects of peer victimization on three indices of externalizing behavior (aggression, inattention, and delinquency), two measures of internalizing behavior (anxiety/depression and social withdrawal), two indices of social adjustment (popularity and rejection), and three indicators of academic problems (reading and math achievement and school absence) in a large and diverse sample of elementary school-aged boys and girls over a 2-year period. We focused on examining specific outcomes of peer victimization, determining whether victimization is associated with multiple patterns of outcomes, and examining gender and age differences in the adjustment to victimization. We hypothesized that being victimized would predict aggressive behavior, attention difficulties, anxiety and depression symptoms, social withdrawal, low social acceptance, school absence, and poor academic achievement. We also predicted variations in patterns of adjustment following peer victimization; that is, we expected that victimization would produce distinct outcomes for various groups of children. Finally, we examined gender and age differences in all predictive relations.

Method

Participants

The participants in the present study were drawn from the initial sample of the Metropolitan Area Child Study (MACS; Guerra,

Eron, Huesmann, Tolan, & Van Acker, 1997; Huesmann et al., 1996). The MACS is a longitudinal assessment and prevention study of aggression that targets children attending any one of 16 public elementary schools located in urban and inner-city areas of two Midwestern cities.¹ The overall parent permission rate for MACS participants is 86.6%. (For a more detailed description of MACS sample selection procedures and participant characteristics, see Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995; Guerra et al., 1997; Huesmann et al., 1996.)

The participants for this set of analyses were 2,064 first- (35%), second- (31%), and fourth- (33%) grade boys (50%) and girls (50%) who had complete data on a measure of victimization at the first assessment period (hereafter referred to as Time 1). The ethnic distribution was as follows: Hispanic (predominantly Mexican American; 40%), African American (38%), and non-Hispanic White (17%). Approximately two thirds of the children received free or reduced lunch from the federal free lunch program.

A total of 1,469 children (71% of the sample) were located and reassessed 2 years later as third (33%), fourth (30%) and sixth (37%) graders (hereafter referred to as Time 2). Children who were located at the follow-up period did not differ from those who were not located in gender, $\chi^2(1) = 0.21$, *ns*, age, $\chi^2(1) = 0.92$, *ns*, or income status (as measured by receipt of free or reduced lunch), $\chi^2(1) = 1.76$, *ns*. However, located children were more likely to be Hispanic (43%) than African American (38%) or White (17%), $\chi^2(3) = 11.33$, $p < .01$. Moreover, there were no differences between located and unlocated children in victimization or rejection, $F(1, 2062) = 2.50$, *ns*, and $F(1, 2062) = 3.21$, *ns*, respectively. Unlocated children, however, were more likely than located children to be aggressive, $F(1, 1787) = 10.54$, $p < .001$, inattentive in class, $F(1, 1787) = 23.29$, $p < .001$, delinquent, $F(1, 1787) = 19.89$, $p < .001$,

1. The children who participated in the present set of analyses attended only 14 of the 16 project schools, because after the 1st year of the MACS two schools withdrew from the study and two more were then recruited. See Guerra et al. (1995) for more details.

withdrawn, $F(1, 1787) = 15.85, p < .001$, and truant from school, $F(1, 1364) = 9.07, p < .01$, and less likely than located children to be popular, $F(1, 2062) = 15.57, p < .001$.

Measures and procedures

Using a cross-sequential design, data were collected during the spring of each academic year at Times 1 and 2, with data collection separated by 2 years. Collecting data during the spring allowed enough time for children and teachers to get to know each other. Peer sociometric ratings were used to assess victimization and social status, and teacher ratings were used to assess externalizing and internalizing behaviors. Measures of academic functioning were obtained from school archival records.

Peer sociometric ratings. Victimization, rejection, and popularity were assessed using peer sociometric techniques, which have been used extensively to measure peer victimization in particular and peer interactions in general. Because peer sociometric procedures entail aggregating multiple items and ratings in computing scores, they tend to provide reliable and valid measures of social phenomenon (Coie, Dodge, & Kupersmidt, 1990; Gresham & Little, 1993). Two victimization items (i.e., "Who are the children who get picked on by other kids?" and "Who are the children who other kids push and hit?"), two rejection items (i.e., "Who are the children that you really don't like?" and "Who are the children that you wish were not in your class?"), and two popularity items (i.e., "Who would you like to sit next to in class?" and "Who are the children you would like to have as your best friends?") were embedded within a 25-item sociometric measure that also assessed other social and behavioral constructs that do not bear directly on this paper (Eron, Walder, & Lefkowitz, 1971; Huesmann, Eron, Guerra, & Crawshaw, 1994; Huesmann, Lagerspetz, & Eron, 1984).

Using the peer nomination method described by Eron and his colleagues (Eron et al., 1971; Huesmann et al., 1984), children were instructed to mark the names of the boys

and girls in their class who fit each item. Questions were read aloud to the children by an examiner in the children's preferred language (i.e., English or Spanish), and approximately the same amount of time was spent on each question. Scores were standardized within classroom by computing the proportion of times each child was nominated by his or her classmates on the corresponding questions. Thus, scores on the victimization scale could range from 0 (*not nominated at all*) to 1 (*nominated by everyone*).

The victimization items were drawn from the seven-item Modified Peer Nomination Inventory (Perry et al., 1988). Perry et al. reported high item-total correlations for the items and found that they reliably represented their broader measure of peer victimization. Analyses of this sample have shown that this scale is internally consistent, with $r = .82$. In addition, this measure of victimization has been used in other analyses of this sample, providing evidence of the validity of the measure (Hanish & Guerra, 2000a, 2000b). Furthermore, the rejection and popularity scales have been found to be reliable and valid (Huesmann et al., 1994), and analyses of this sample have revealed internal consistency coefficients of $r = .93$ and $r = .85$, respectively.

Teacher ratings. Classroom teachers' responses to the Child Behavior Checklist—Teacher Report Form (CBCL-TRF; Achenbach, 1991) were used as indicators of externalizing and internalizing difficulties. Scores on the aggressive behavior, attention problems, and delinquency subscales served as indices of externalizing behavior and scores on the anxious/depressed and withdrawn subscales served as indices of internalizing behavior. Teachers responded to items using a 3-point, Likert-type rating scale, ranging from 0 (*not true*) to 2 (*very true*). Subscale scores were computed by summing teachers' responses to the corresponding items for each subscale. This measure has demonstrated reliability and validity with diagnostic categories, and subscale scores were based on the most recent norms for 6- to 11-year-old children (Achenbach, 1991). In the

present sample, internal consistency estimates for these scales ranged from $\alpha = .79$ (delinquency) to $\alpha = .97$ (aggressive behavior).

School archival data. Data reflecting school performance was collected from school archival records. Attendance data, indicating number of absences during the school year, were obtained from each school. Standardized achievement test scores (reading and math) were also gathered. Missing achievement data were estimated using a multiple imputation procedure in which five estimates of missing values were returned and the mean of all five estimates was taken as the most stable estimated value.

Results

The purpose of this study was to examine the consequences of being victimized by peers. We addressed two sets of questions. First, does peer victimization result in increases in externalizing, internalizing, social, and academic difficulties over a 2-year period of time? Second, does peer victimization result in different patterns of outcomes across these four domains of functioning? That is, do all victimized children experience the same patterns of adjustment across domains or are multiple patterns common? In all analyses, we examined the effects of gender and age (dichotomized as younger vs. older). Moreover, in conducting all analyses, we relied on a family-wise error rate of .05 for significance testing and used a Bonferroni correction procedure to control for Type I error rates.

Preliminary analyses

Gender and age differences in victimization. We began by examining gender and age differences in victimization. Analyses of variance (ANOVAs) revealed that boys had higher victimization scores than girls, $F(1, 2062) = 38.53, p < .001$, at Time 1, and $F(1, 1222) = 27.03, p < .001$, at Time 2. There was no age difference in victimization at Time 1 when children were in the first, second, and fourth grades, $F(1, 2062) = 1.34, ns$. However, at Time 2, when children were in the third,

fourth, and sixth grades, younger children had higher victimization scores than older children, $F(1, 1222) = 7.95, p < .01$. (For a more detailed analysis of demographic differences in victimization, see Hanish & Guerra, 2000a.)

Relations among variables. We conducted zero-order correlations between victimization and the externalizing (aggression, attention problems, and delinquency), internalizing (anxiety/depression and withdrawal), social (popularity and rejection), and academic (school absence, math achievement, and reading achievement) outcome variables measured at Times 1 and 2 to evaluate the relations among predictor and outcome variables (see Table 1). Several key findings were apparent. Victimization was correlated with the externalizing, social, and internalizing variables, although correlations with withdrawal were generally weak. However, victimization was uncorrelated with school attendance and achievement. In addition, correlations between the outcome measures were generally in the expected direction and of moderate magnitude, with the highest correlations appearing within domains of functioning (e.g., within the externalizing domain). Finally, correlations between the Time 1 and Time 2 measures indicated moderate stability in victimization and outcome variables across the 2-year study period (see also Hanish & Guerra, 2000b).²

Does victimization predict externalizing, internalizing, social, and academic difficulties?

We followed the bivariate analyses with a series of partial correlation analyses that were designed to evaluate Time 1 victimization as a predictor of subsequent (i.e., Time 2) aggressive behavior, attention difficulties, delinquency, anxious and depressed symptoms, withdrawal, popularity, rejection, school absence, and mathematics and reading achieve-

2. Correlations for the 1,469 children with data at Time 2 are not different than those for the entire sample of 2,064.

Table 1. Correlations between victimization and outcome variables measured at Times 1 and 2

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1. T1 Vic	—																						
2. T1 Agg	.30*	—																					
3. T1 Attn	.30*	.67*	—																				
4. T1 Del	.26*	.79*	.63*	—																			
5. T1 Anx	.14*	.51*	.52*	.51*	—																		
6. T1 With	.08*	.36*	.56*	.45*	.68*	—																	
7. T1 Pop	-.08*	-.16*	-.29*	-.14*	-.13*	-.18*	—																
8. T1 Rej	.61*	.43*	.44*	.38*	.22*	.18*	-.42*	—															
9. T1 Abs	.06	.03	.08	.10*	.08	.08	-.09	.01	—														
10. T1 Math	-.07	-.14*	-.24*	-.19*	-.06	-.09*	.15*	-.15*	-.07	—													
11. T1 Read	-.03	-.13*	-.23*	-.15*	-.03	-.10*	.14*	-.13*	-.03	.62*	—												
12. T2 Vic	.37*	.16*	.26*	.10*	.09	.09	-.26*	.36*	-.02	-.04	-.03	—											
13. T2 Agg	.33*	.49*	.38*	.36*	.19*	.09	-.15*	.42*	.02	-.18*	-.13*	.24*	—										
14. T2 Attn	.34*	.36*	.48*	.30*	.16*	.18*	-.26*	.42*	.00	-.28*	-.21*	.32*	.71*	—									
15. T2 Del	.29*	.40*	.39*	.34*	.13*	.15*	-.14*	.38*	.04	-.20*	-.17*	.20*	.83*	.67*	—								
16. T2 Anx	.19*	.17*	.19*	.11*	.13*	.10*	-.11*	.21*	-.00	-.14*	-.14*	.21*	.52*	.54*	.45*	—							
17. T2 With	.08	.06	.18*	.08	.08	.20*	-.15*	.16*	.02	-.18*	-.18*	.17*	.35*	.56*	.38*	.69*	—						
18. T2 Pop	-.23*	-.18*	-.26*	-.18*	-.12*	-.17*	.37*	-.38*	.01	.12*	.12*	-.27*	-.15*	-.29*	-.15*	-.16*	-.21*	—					
19. T2 Rej	.36*	.33*	.35*	.23*	.18*	.15*	-.33*	.49*	-.02	-.02	-.02	.63*	.33*	.38*	.29*	.21*	.18*	-.43*	—				
20. T2 Abs	.08	.08	.09	.11*	.07	.07	-.00	.06	.36*	-.10*	-.10*	.00	.13*	.10	.14*	.02	.04	-.08	.02	—			
21. T2 Math	-.07	-.11*	-.23*	-.15*	-.10*	-.16*	.11*	-.11*	-.09	.35*	.35*	.01	-.16*	-.22*	-.17*	-.09	-.10*	.16*	-.06	-.06	—		
22. T2 Read	-.06	-.12*	-.19*	-.14*	-.06	-.09*	.07	-.09*	-.07	.24*	.24*	.00	-.16*	-.18*	-.16*	-.07	-.09	.10*	-.05	-.04	.66*	—	

Note: Flagged correlations are significant at a Bonferroni corrected p value of $p < .002$. Correlations were computed using a pairwise procedure, and sample sizes range from 907 to 2,064. Abs, school absence; Agg, aggression; Anx, anxiety/depression; Attn, attention problems; Del, delinquency; Math, math achievement; Pop, popularity; Read, reading achievement; Rej, rejection; Vic, victimization; With, withdrawal.

Table 2. Partial correlations between Time 1 victimization and Time 2 outcomes controlling for Time 2 victimization and Time 1 outcomes

Group	Agg	Attn	Del	Anx	With	Pop	Rej	Abs	Math	Read
Full Sample	.21*	.21*	.20*	.13*	.01	-.15*	-.02	.07	-.07	-.07
Boys	.20*	.20*	.19*	.16*	.04	-.17*	-.02	.05	-.10	-.06
Girls	.21*	.20*	.20*	.08	-.02	-.13*	-.01	.07	-.04	-.07
Grades 1 and 2	.24*	.24*	.23*	.13*	.04	-.19*	-.03	.03	-.06	-.06
Grade 4	.21*	.17*	.18*	.15	-.03	-.09	-.01	.16	-.07	-.08

Note: Flagged correlations are significant at a Bonferroni corrected p value of $p < .001$. Abs, school absence; Agg, Aggression; Anx, anxiety/depression; Attn, attention problems; Del, delinquency; Math, math achievement; Pop, popularity; Read, reading achievement; Rej, rejection; With, withdrawal.

ment after controlling for variance due to the stability of both victimization and the relevant outcome variable (see Table 2). Findings revealed that prior victimization was associated with high levels of later aggressive behavior, attention difficulties, delinquency, and anxious/depressed symptoms and low levels of popularity after controlling for Time 2 victimization and the relevant Time 1 outcome variable. Effect sizes for these relations ranged from .02 (anxiety/depression and popularity) to .04 (aggressive behavior, attention problems, and delinquency). Because bivariate analyses had shown a relation between early victimization and later rejection, we had expected that this would emerge in partial correlation analyses as well. However, after controlling for Time 2 victimization and Time 1 rejection, prior victimization did not predict later rejection. Consistent with findings obtained in the bivariate analyses, prior victimization did not predict later withdrawal, school absence, or achievement in the partial correlation analyses.

Additional partial correlation analyses were conducted to examine demographic differences in the predictive relations between early victimization and later externalizing, internalizing, social, and academic functioning. After alternately splitting the sample by gender and age, partial correlations were computed separately for each group (see Table 2). Then, a Fisher r to Z transformation followed by a Z test was used to test for significant group differences on each outcome measure.

Findings demonstrated that boys and girls experienced similar outcomes following vic-

timization. There was a trend for boys to experience slightly higher rates of anxious and depressed symptoms subsequent to being victimized, but this trend did not reach statistical significance at an alpha level of .05. Similarly, no significant age differences in outcomes were obtained, suggesting that, within this early to middle elementary aged sample, there are no meaningful developmental differences in the consequences of being victimized by peers. Across all groups, victimization was predictive of high levels of externalizing behavior, anxiety, and depression and low levels of popularity. It is important to note, however, that such moderation effects are often difficult to detect in nonexperimental designs in which controls are necessarily limited (McClelland & Judd, 1993).

Does victimization predict different patterns of outcomes?

Identification and validation of adjustment patterns. To further examine how peer victimization affects children's adjustment, we examined patterns of elevation across all of the externalizing, internalizing, social, and academic variables using cluster analysis. Cluster analysis is a useful technique for sorting individuals into distinct, naturally occurring subgroups on the basis of multiple characteristics. As a first step, we computed residual scores for each outcome variable by regressing Time 2 values onto Time 1 values. The residual scores were standardized to control for variations in scaling, and they were included in a nonhierarchical K -means cluster

analysis (MacQueen, 1967). Wishart's (1982) procedure for determining the optimal number of clusters was employed. In this procedure, which evaluates the extent to which successive cluster solutions reduce within-cluster variability, the mean distance score for each cluster solution is calculated and entered into a paired-samples *t* test.

The robustness of the cluster solution that we obtained using these procedures was supported by randomly dividing the sample in half and computing the same analysis for each subsample. Each subsample produced configurations of clusters that were similar to those produced by the sample as a whole, $\chi^2(49) = 1233.86, p < .001$, and $\chi^2(70) = 1998.95, p < .001$.³ Comparable findings were also obtained using a hierarchical agglomerative clustering technique, $\chi^2(21) = 891.04, p < .001$. Producing similar patterns of results with subsets of the sample and multiple cluster analytic techniques is important in establishing the reliability of a cluster solution (Aldenderfer & Blashfield, 1984). In addition, because findings using a pairwise procedure for handling missing data were comparable to findings using a listwise procedure for handling missing data, $\chi^2(42) = 2901.24, p < .001$, we retained the pairwise solution.

The cluster analysis returned eight distinct groups characterized by different patterns of functioning (see Table 3). We labeled these patterns as *externalizing* ($n = 168$), *internalizing* ($n = 164$), *symptomatic* ($n = 108$), *popular* ($n = 249$), *disliked* ($n = 240$), *absent* ($n = 99$), *low achieving* ($n = 254$), and *high achieving* ($n = 177$). To evaluate the validity of these groups, we conducted paired *t* tests for each group to examine change between Time 1 and Time 2 on each measure of adjustment (see Table 4). We also conducted univariate ANOVAs comparing groups on each Time 2 measure (see Table 5).

Together, these analyses revealed that chil-

dren in the externalizing group demonstrated significant increases in aggression, attention problems, and delinquency over the 2-year follow-up period coupled with relatively high scores on each of these variables at Time 2. They also evidenced increasing, but moderate, levels of anxiety and depression and rejection as well as a significant decline in math achievement. Children in the internalizing group showed significant increases in anxiety and depression, withdrawal, and attention problems over time and relatively high scores in these areas at Time 2. They also showed increased, but still low, aggression and decreased popularity. However, they also experienced low and declining rates of school absence coupled with moderate and improving reading achievement. Children in the symptomatic group evidenced the greatest and most varied adjustment difficulties. They experienced increased aggression, attention problems, delinquency, anxiety and depression, withdrawal, rejection, and school absence combined with decreased popularity over 2 years. Moreover, their scores on all of the outcome variables at Time 2 were at the extreme ends of the range, suggesting poor functioning across behavioral, emotional, social, and academic domains. Children in the popular group showed few adjustment problems across all of the outcome measures. In addition, they experienced increased popularity and decreased rejection across time. Children in the disliked group showed few problems on many of the behavioral and academic measures of functioning, and their academic performance improved over time, as evidenced by decreases in school absences and increases in achievement scores. However, they were disliked by peers and experienced decreases in popularity and increases in rejection over time, with low scores on popularity and high scores on rejection at Time 2. Children in the absent group were characterized by increased truancy over time and high numbers of absences at Time 2 as well as decreased popularity. Despite this, their reading achievement improved over time and their rejection by peers decreased. Their scores on other measures of functioning were in the moderate range. Finally, children in the low

3. We also computed cluster analyses by gender and age. These analyses also produced similar patterns of cluster configurations: $\chi^2(56) = 1555.54, p < .001$, for boys; $\chi^2(56) = 1779.05, p < .001$, for girls; $\chi^2(42) = 2732.77, p < .001$, for younger children; and $\chi^2(42) = 1130.28, p < .001$, for older children.

Table 3. Cluster centers for each adjustment pattern group

Variable	Group									
	Externalizing	Internalizing	Symptomatic	Popular	Disliked	Absent	Low Achieving	High Achieving		
Aggression	1.55	0.03	2.33	-0.43	-0.27	-0.21	-0.46	-0.45		
Attention problems	0.98	0.87	2.08	-0.52	-0.16	-0.15	-0.37	-0.44		
Delinquency	1.31	-0.10	2.51	-0.39	-0.31	-0.11	-0.41	-0.40		
Anxiety/depression	0.29	1.29	2.65	-0.40	-0.20	-0.33	-0.42	-0.29		
Withdrawal	0.06	2.09	2.07	-0.43	-0.27	-0.15	-0.40	-0.31		
Popularity	0.23	-0.30	-0.59	1.12	-0.55	-0.72	-0.31	0.26		
Rejection	-0.01	-0.11	0.98	-0.61	0.90	-0.53	-0.05	-0.41		
School absence	0.01	-0.44	0.61	-0.23	-0.27	3.10	-0.19	-0.12		
Math achievement	-0.44	0.00	-0.11	0.21	0.38	-0.06	-1.14	1.33		
Reading achievement	-0.34	0.13	-0.37	-0.05	0.32	0.01	-1.00	1.48		

Note: Standardized residual scores are presented.

Table 4. Mean change between Time 1 and Time 2 on outcome variables by adjustment pattern group

Outcome Measure	Group							
	Externalizing	Internalizing	Symptomatic	Popular	Disliked	Absent	Low Achieving	High Achieving
Aggression	16.77*	3.60*	24.13*	-0.95	-0.63	0.09	-2.41*	-1.43
Attention problems	8.67*	8.77*	15.21*	-1.28*	0.37	0.08	-1.81	-0.40
Delinquency	3.63*	0.46	6.74*	-0.11	-0.28	0.16	-0.79*	-0.19
Anxiety/depression	1.47*	6.20*	10.77*	-1.12*	-0.83	-1.06	-2.11*	-0.28
Withdrawal	0.48	5.85*	5.58*	-0.59*	-0.47	-0.29	-1.30*	-0.13
Popularity	0.01	-0.07*	-0.11*	0.06*	-0.12*	-0.15*	-0.09*	-0.04*
Rejection	0.06*	-0.03	0.07*	-0.72*	0.10*	-0.09*	-0.02	-0.06*
School absence	-0.51	-5.06*	4.57*	-3.15*	-3.03*	20.30*	-3.03*	-1.68
Math achievement	-6.29*	3.36	3.13	3.20	6.10*	3.94	-26.78*	29.00*
Reading achievement	1.15	8.46*	0.28	1.24	8.05*	8.78*	-17.37*	33.60*

Note: A Bonferroni correction was used in testing for significant differences.
* $p < .006$.

Table 5. Means and standard deviations on Time 2 outcome variables by adjustment pattern group

Time 2 Measure	Group									
	Externalizing	Internalizing	Symptomatic	Popular	Disliked	Absent	Low Achieving	High Achieving		
Aggression	24.45 (11.14) _a	6.52 (7.96) _b	31.92 (13.58) _c	2.58 (4.36) _d	6.37 (7.98) _b	6.74 (9.29) _{bd}	4.27 (7.62) _{bd}	3.04 (5.72) _{bd}		
Attention Problems	16.22 (7.99) _a	13.94 (8.91) _a	26.51 (10.15) _b	3.13 (4.56) _c	7.76 (7.46) _d	8.26 (8.42) _d	6.69 (6.44) _d	3.85 (5.46) _c		
Delinquency	5.07 (2.71) _a	1.25 (1.56) _b	7.94 (3.52) _c	0.61 (1.18) _b	1.18 (1.80) _b	1.66 (2.46) _b	1.09 (1.79) _b	0.66 (1.40) _b		
Anxiety/depress	3.90 (3.36) _a	7.49 (6.23) _b	13.31 (6.86) _c	1.10 (1.72) _d	2.07 (2.32) _d	1.48 (1.83) _d	1.34 (2.37) _d	1.64 (2.66) _d		
Withdrawal	1.99 (1.93) _a	6.68 (3.92) _b	7.22 (3.73) _b	0.71 (1.07) _c	1.35 (1.76) _a	1.48 (1.84) _a	1.08 (1.51) _c	1.05 (1.76) _c		
Popularity	0.23 (0.11) _a	0.16 (0.10) _b	0.13 (0.09) _b	0.35 (0.11) _c	0.14 (0.09) _b	0.13 (0.11) _b	0.17 (0.10) _b	0.25 (0.11) _a		
Rejection	0.28 (0.15) _a	0.23 (0.15) _{ac}	0.44 (0.17) _d	0.14 (0.09) _c	0.39 (0.15) _d	0.18 (0.13) _{ce}	0.24 (0.14) _a	0.18 (0.12) _{ce}		
School absence	8.28 (6.58) _a	4.90 (5.27) _b	12.50 (7.70) _c	6.60 (5.75) _{ab}	6.18 (5.69) _{ab}	29.91 (14.18) _d	6.45 (7.33) _{ab}	6.83 (6.42) _{ab}		
Math achievement	35.38 (21.34) _a	46.09 (18.27) _b	42.16 (22.61) _{ab}	53.55 (17.16) _c	58.00 (16.24) _c	43.52 (19.70) _{ab}	21.00 (14.81) _d	79.82 (14.91) _e		
Reading achievement	33.56 (18.87) _a	44.81 (20.06) _b	33.04 (19.06) _a	42.15 (16.17) _b	50.88 (15.67) _b	41.35 (17.38) _{ab}	20.57 (12.48) _c	76.22 (14.22) _d		

Note: Standard deviations are presented in parentheses. Means in the same row with different subscripts differ at a Bonferroni corrected p value of $p < .007$ using a Tukey HSD post hoc test.

achieving and high achieving groups both evidenced relatively low scores on behavioral and social measures of maladaptation. However, they experienced significant changes in achievement, with children in the low achieving group displaying decreases in math and reading achievement coupled with low scores on these measures and with children in the high achieving group displaying increases in math and reading achievement coupled with high scores on these measures.

A series of chi-square analyses demonstrated demographic differences in patterns of adjustment. Specifically, analyses revealed gender, $\chi^2(7) = 21.98, p < .01$, and age, $\chi^2(7) = 24.38, p < .001$, differences. Boys were more likely than girls to exhibit externalizing and symptomatic patterns, and girls were more likely than boys to exhibit popular and internalizing patterns. Older children (i.e., fourth-grade cohort) were more likely than younger children (i.e., first- and second-grade cohort) to display high achieving and absent patterns, but younger children were more likely to display low achieving and symptomatic patterns.

The relation between victimization and adjustment patterns. Given that distinct patterns of functioning could be differentiated, our next step was to examine the degree to which victimization was associated with different patterns of adjustment. Discriminant function analysis was used to test this relation. Adjustment pattern was entered as the dependent variable, and both Time 1 victimization and Time 2 victimization were entered as independent variables, thereby permitting a test of the degree to which adjustment was predicted by persistent (over 2 years) as well as time-limited (at only Time 1 or Time 2) victimization.⁴

Univariate tests demonstrated that both Time 1 victimization and Time 2 victimization predicted outcome group, $F(7, 1216) = 8.99, p < .001$, and $F(7, 1216) = 24.56, p < .001$, respectively (see Table 6 for means and standard deviations by group). Follow-up

analyses of covariance (ANCOVAs), alternately examining the unique relations between adjustment group and either Time 1 or Time 2 victimization while controlling for victimization measured at the other time point, were conducted to examine these effects in more detail. Pairwise group comparisons, using a Bonferroni correction, revealed that children in the externalizing (adjusted $M = .25, SE = .01$) and symptomatic (adjusted $M = .27, SE = .02$) groups had significantly higher scores on Time 1 victimization than children in the disliked (adjusted $M = .21, SE = .01$), internalizing (adjusted $M = .19, SE = .01$), high achieving (adjusted $M = .21, SE = .01$), and popular (adjusted $M = .20, SE = .01$) groups. Furthermore, children in the disliked (adjusted $M = .24, SE = .01$) and symptomatic (adjusted $M = .22, SE = .02$) groups had significantly higher scores on Time 2 victimization than children in the other groups (adjusted means and standard errors, respectively, were .18 and .01 for the externalizing group, .18 and .01 for the internalizing group, .15 and .01 for the low achieving group, .14 and .01 for the high achieving group, .13 and .01 for the absent group, and .12 and .01 for the popular group). In addition, children in the externalizing and internalizing groups had moderate scores on Time 2 victimization that were significantly higher than the scores of their peers in the popular group.

From a multivariate perspective, the discriminant function analysis produced two discriminant functions that distinguished the adjustment groups. The first function was a stronger predictor of adjustment groups than the second function. The canonical correlation between the first function and the groups was .36 (effect size .13), and this function explained 88% of the dispersion among the groups. The canonical correlation between the second function and the groups was .14 (effect size .02), and this function explained 12% of the dispersion among the groups. Both functions, however, significantly discriminated the adjustment groups, $\chi^2(14) = 190.54, p < .001$, and $\chi^2(6) = 23.10, p < .001$, respectively.

In interpreting the meaning of the functions, we examined both the loading coeffi-

4. The victimization variables were transformed using a square root transformation prior to entry in the analysis.

Table 6. Means and standard deviations on Time 1 and Time 2 victimization by adjustment group

Group	Time 1 Victimization	Time 2 Victimization
Externalizing	0.48 (0.14)	0.40 (0.17)
Internalizing	0.40 (0.17)	0.36 (0.19)
Symptomatic	0.52 (0.16)	0.48 (0.16)
Popular	0.40 (0.13)	0.31 (0.14)
Disliked	0.46 (0.16)	0.47 (0.18)
Absent	0.42 (0.15)	0.30 (0.18)
Low achieving	0.44 (0.15)	0.35 (0.17)
High achieving	0.41 (0.16)	0.33 (0.16)

Note: These values represent scores on square root transformed victimization variables. Standard deviations are presented in parentheses.

icients, which represent the correlation between each independent variable and the function, and the standardized discriminant function coefficients, which show the relative contribution of each independent variable to the function (Tabachnick & Fidell, 1989). Both Time 1 and Time 2 victimization loaded on the first function (function loading coefficients were .50 and .98, respectively). However, Time 2 victimization defined this function more strongly than did Time 1 victimization (standardized discriminant function coefficients were .23 for Time 1 victimization and .91 for Time 2 victimization). Only Time 1 victimization, though, loaded on the second function (loading coefficients were .86 for Time 1 victimization and $-.22$ for Time 2 victimization; standardized discriminant function coefficients were 1.03 and $-.53$, respectively). Thus, we interpreted the first function as reflecting primarily Time 2 victimization and the second function as reflecting Time 1 victimization.

Examination of Figure 1, which plots each adjustment group along these functions, suggests that children in the absent, popular, high achieving, internalizing, and low achieving groups experienced relatively low levels of victimization at both Times 1 and 2. In contrast, children in the externalizing group experienced high levels of victimization at Time 1 followed by moderate levels of victimization at Time 2, children in the disliked group experienced low levels of victimization at Time 1 and high levels of victimization at Time 2, and children in the symptomatic group ex-

perienced high levels of victimization at both times.

Because significant demographic differences in both victimization and patterns of functioning were obtained, this analysis was also conducted separately for boys and girls and for younger and older children (see Figures 2 and 3). For boys, two functions differentiated the groups, $\chi^2(14) = 126.86$, $p < .001$, and $\chi^2(6) = 24.24$, $p < .001$, for Functions 1 and 2, respectively (see Figure 2a). The first function primarily reflected Time 2 victimization and accounted for 82% of the dispersion across groups (canonical correlation was .39; effect size .15); loading coefficients for this function were .56 and .98 for Time 1 and Time 2 victimization, respectively, and standardized discriminant function coefficients were .24 and .89 for Time 1 and Time 2 victimization. The second function reflected Time 1 victimization and explained 18% of the differences between groups (canonical correlation was .20; effect size .04); loading coefficients for this function were $-.22$ and .83 for Time 1 and Time 2 victimization, respectively, and standardized discriminant function coefficients were 1.05 and $-.59$ for Time 1 and Time 2 victimization. For boys, high levels of Time 1 victimization and low levels of Time 2 victimization were associated with membership in the low achieving group, high levels of Time 1 victimization and moderate levels of Time 2 victimization were associated with membership in the externalizing group, low levels of Time 1 victimization and high levels of Time 2 victimiza-

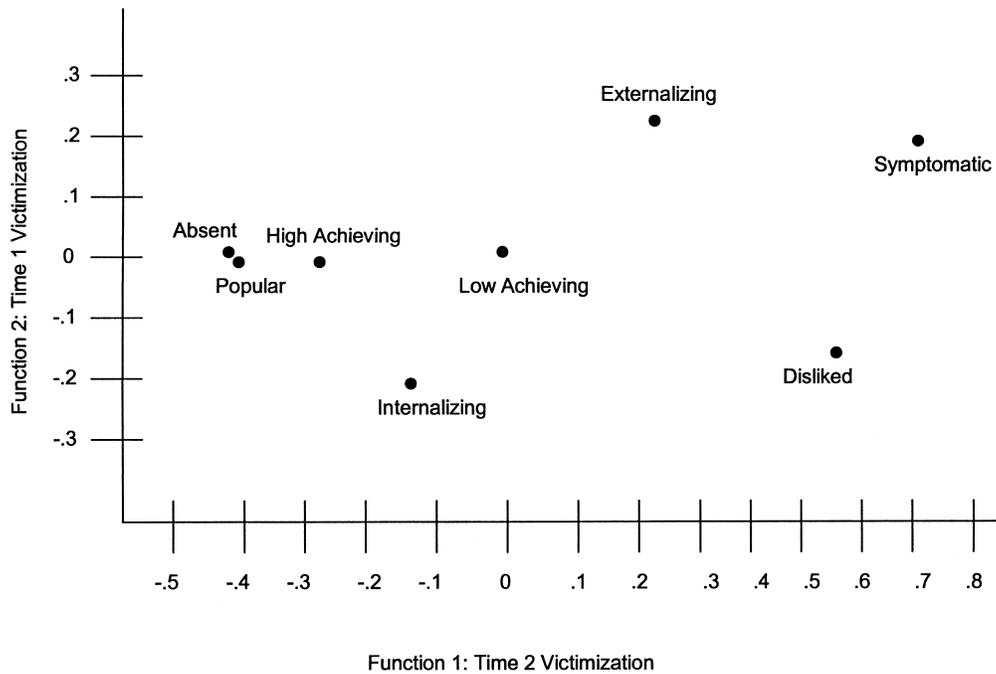


Figure 1. Comparison of the adjustment groups on Time 1 and Time 2 victimization.

tion were associated with membership in the disliked group, and high levels of victimization at both Times 1 and 2 were associated with membership in the symptomatic group.

For girls, only one function differentiated the groups, $\chi^2(14) = 81.49, p < .001$, and $\chi^2(6) = 12.30, ns$, for Functions 1 and 2, respectively (see Figure 2b). This function explained 86% of the dispersion among the groups and was defined entirely by Time 2 victimization (canonical correlation was .33; effect size .11). Loading coefficients were .28 and .99, and standardized discriminant function coefficients were .04 and .99 for Time 1 and Time 2 victimization, respectively. Thus, Time 1 victimization did not discriminate adjustment patterns for girls. Findings demonstrated that girls who experienced high levels of Time 2 victimization were most likely to be members of the disliked and symptomatic groups.

Only one function discriminated adjustment groups for younger children as well, $\chi^2(14) = 118.52, p < .001$, and $\chi^2(6) = 8.76, ns$, for Functions 1 and 2 respectively (see Figure 3a). This function predominantly reflected

Time 2 victimization (canonical correlation was .37; effect size .14). Loading coefficients were .54 and .96, and standardized discriminant function coefficients were .31 and .87 for Time 1 and Time 2 victimization, respectively. It explained 93% of the dispersion among the groups. For children in the first- and second-grade cohorts, high levels of Time 2 victimization were associated with membership in the symptomatic, disliked, and externalizing groups.

Two functions discriminated the adjustment groups for children in the fourth grade cohort, $\chi^2(14) = 77.87, p < .001$, and $\chi^2(6) = 16.12, p < .05$, for Functions 1 and 2 respectively (see Figure 3b). The first function explained 80% of the dispersion among the groups and completely reflected Time 2 victimization (canonical correlation was .36; effect size .13). Loading coefficients were .38 and 1.00 and standardized discriminant function coefficients were .02 and .99 for Time 1 and Time 2 victimization, respectively. The second function explained 20% of the dispersion among the groups and reflected Time 1

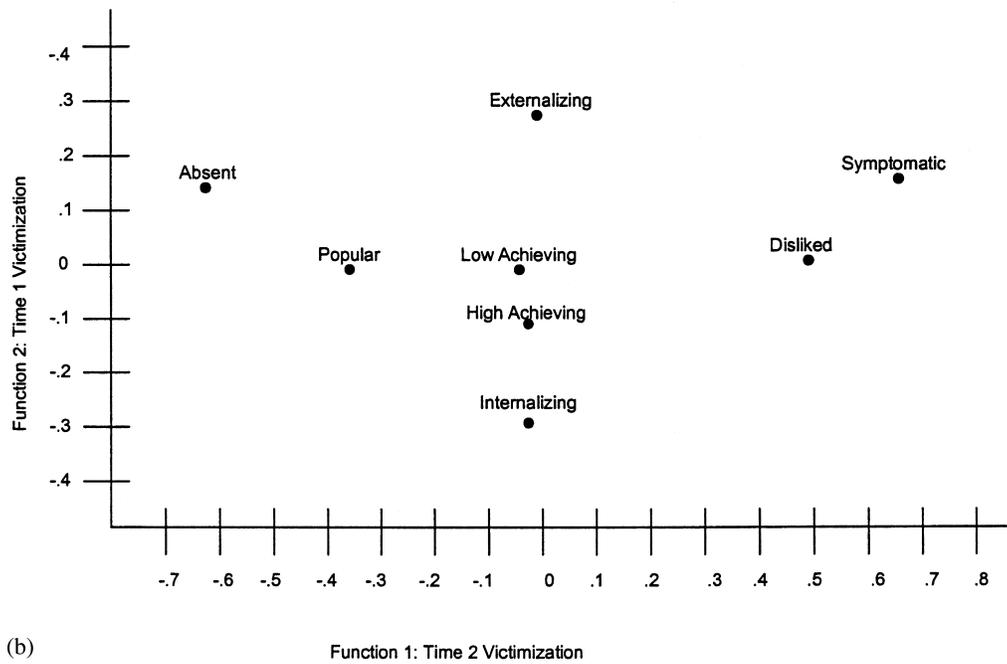
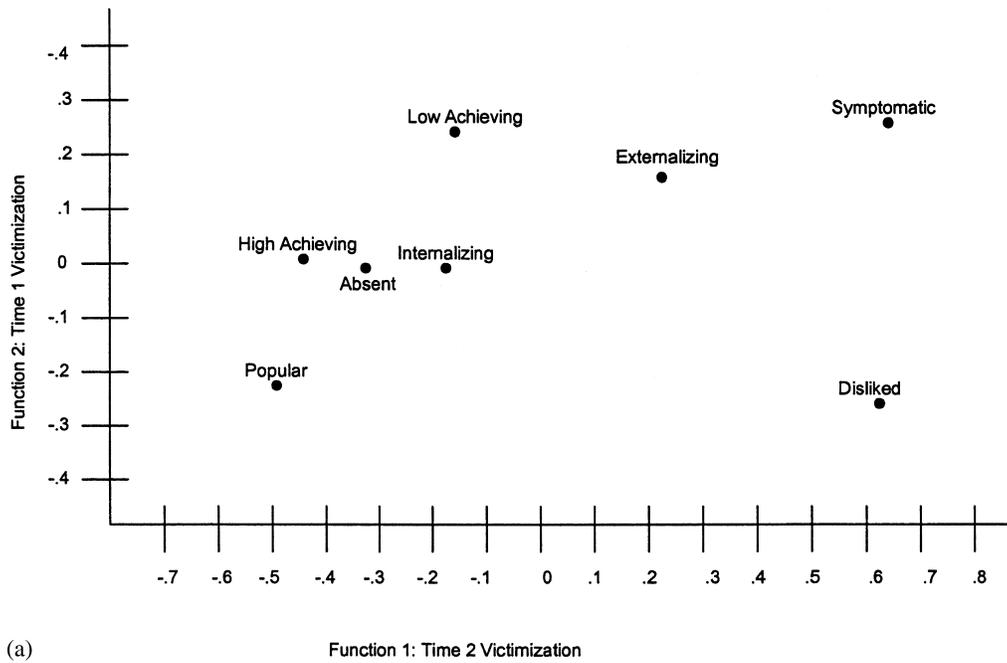


Figure 2. Comparisons of the adjustment groups on Time 1 and Time 2 victimization: (a) boys; (b) girls.

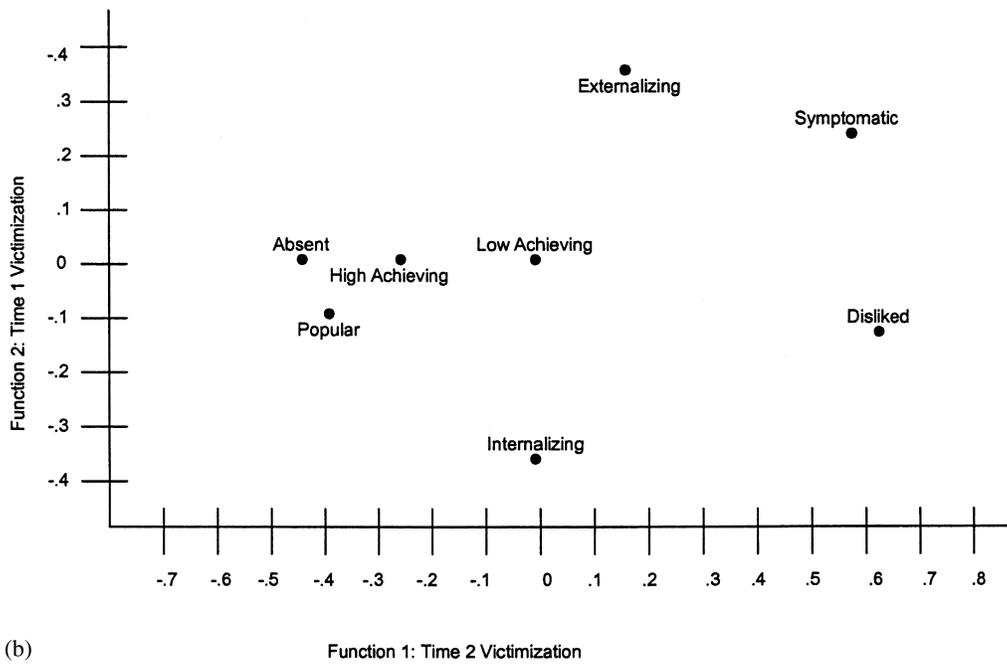
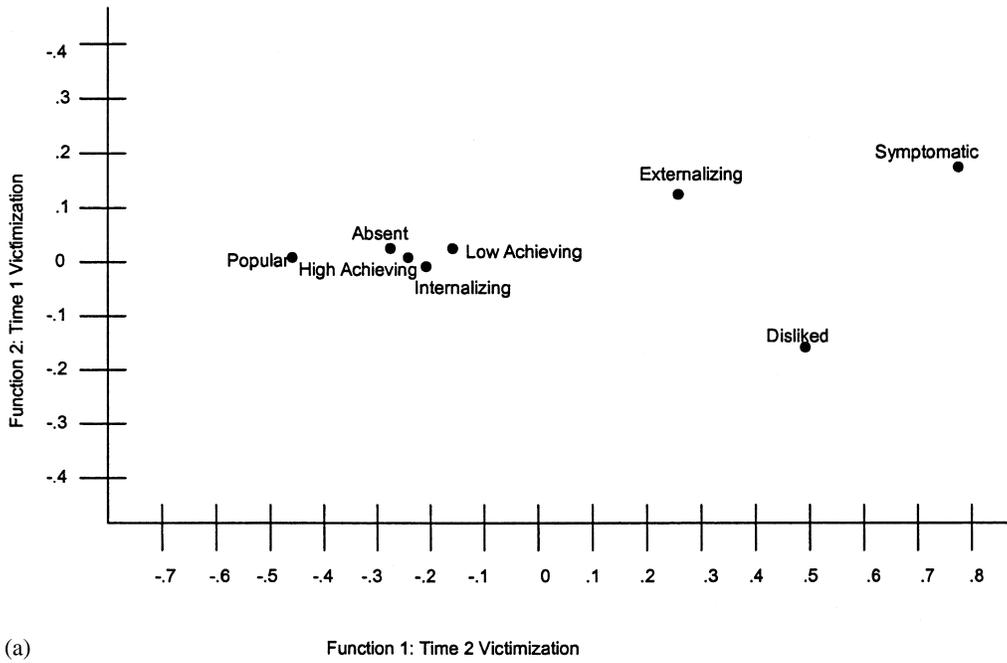


Figure 3. Comparisons of the adjustment groups on Time 1 and Time 2 victimization: (a) younger children; (b) older children.

victimization (canonical correlation was .19; effect size .04). Loading coefficients were .93 and $-.02$, and standardized discriminant function coefficients were 1.07 and $-.40$ for Time 1 and Time 2 victimization, respectively. Findings demonstrated that children in the externalizing group experienced high levels of victimization at Time 1 and relatively low levels of victimization at Time 2, children in the disliked group experienced low levels of victimization at Time 1 and high levels of victimization at Time 2, and children in the symptomatic group experienced high levels of victimization at both times.

Discussion

We examined the effects of peer victimization on children's behavioral, emotional, social, and academic adjustment. We tested for effects on single outcome variables as well as on combinations of outcome variables. Findings revealed significant relations between victimization and behavioral, emotional, and social variables measured 2 years later and demonstrated that early victimization is related to later changes in these variables. Moreover, stable and time-limited forms of victimization were differentially related to various combinations of outcomes. Gender and age differences in these relations were also obtained, with boys and older children showing the most severe responses to victimization.

Peer victimization was correlated with concurrent and subsequent aggressive behavior, inattention in the classroom, delinquency, symptoms of anxiety and depression, rejection, and low popularity among classmates. It was not, however, correlated with academic maladjustment or withdrawal. These results were consistent across boys and girls and younger and older children. The findings, which complement past research, suggest that victimized children are at risk for difficulties in a number of behavioral, emotional, and social domains (Boivin et al., 1995; Crick & Bigbee, 1998; Hodges & Perry, 1999; Hodges et al., 1999; Neary & Joseph, 1994; Olweus, 1993; Schwartz et al., 1998; Slee, 1994).

Partial correlation analyses also supported

a temporal connection between victimization and subsequent adjustment. In these analyses, we controlled for the stability of both victimization and the adjustment variables over time, thereby examining the degree to which earlier victimization predicts adjustment 2 years later, above and beyond concurrent victimization and prior adjustment. For some aspects of adjustment these findings complemented what was found with zero-order correlations, but for other aspects of adjustment these findings provided a different and more detailed picture of the effects of victimization on children's subsequent functioning.

Early victimization predicted later aggressive behavior, attention problems, delinquency, anxiety/depression, and low levels of popularity, over and above the effects of concurrent victimization and prior adjustment. This suggests that functioning in each of these domains changes as a result of being victimized. However, early victimization did not uniquely add to the prediction of later rejection, indicating that being victimized does not result in increased rejection from the peer group over time.

These findings support a conceptualization of victimization as an agent of future adjustment problems and suggest that children's adjustment depends upon earlier peer experiences. However, as cluster and discriminant function analyses demonstrated, not all victimized children experienced the same set of effects. By clustering residual scores on each of the externalizing, internalizing, social, and academic outcome variables, we identified eight distinct patterns of adjustment at Time 2. Subgroups of children could be differentiated from one another on the basis of functioning in each of these domains. Moreover, these subgroups were differentially related to victimization. Thus, peer victimization predicted a range of adjustment problems, and there was heterogeneity in the types of outcomes that children experienced.

The most troubled children were found in the symptomatic subgroup. Unlike children in either the externalizing or disliked subgroups who exhibited a focused set of adjustment problems within one primary domain, the symptomatic children exhibited the most di-

verse and extensive types of adjustment problems, including high levels of both externalizing and internalizing problems, as well as high levels of social problems and school problems. This pattern of adjustment was also most consistently related to peer victimization for both boys and girls and for younger and older children. For boys and older children, inclusion in this subgroup was predicted by persistent victimization at both Time 1 and Time 2. Further, victimization at both times did not predict inclusion in any other subgroup. For younger children and girls, the effect appeared to be more immediate, with only high Time 2 victimization predicting inclusion in the symptomatic subgroup.

These findings indicate that the effects of peer victimization are more enduring for boys and older children, and that persistent victimization can result in a pattern of maladaptive behavior. It may be that victimization is a harsher process for boys and older children because the nature, meaning, and importance of victimization in particular, and social relationships in general, varies by gender and age. Boys, compared to girls, are more likely to be repeatedly victimized over time, and they are more likely to be victimized in multiple ways, to experience physical victimization, and to exhibit distress following victimization (Crick & Bigbee, 1998; Furlong, Sharma, & Rhee, 2000; Hanish & Guerra, 2000a; Underwood, Hurley, Johanson, & Mosley, 1999). Given that boys usually develop large peer networks made up of many youth, they may be less skilled at weathering victimization than girls, who usually develop small, intimate social networks made up of a few close friends (Hodges et al., 1999). Similarly, the peer networks of younger children are more in flux than those of older children, rendering victimization a harsher experience for older children seeking to fit in with a more stable peer network.

In contrast to the persistent form of victimization that characterized the symptomatic group, elevated early, but not later, victimization was associated with membership in the externalizing group for younger and older boys. The externalizing group was characterized by a more discrete set of adjustment

problems, with particular maladjustment in the domains of aggressive behavior, delinquency, and attention problems. This pattern of findings was also supported by the partial correlation analyses for aggression, attention, and delinquency. Thus, early victimization that subsides over time can still have an enduring effect on acting out behaviors for boys. Aggression and acting out behaviors are more frequent, normative, and socially reinforced for boys. Given this normative status, it may be that such behaviors, once established, become more habitual and characteristic, even when the eliciting stimuli subside or are no longer present.

Elevated levels of victimization were also associated with membership in the disliked group, which was characterized by high levels of rejection and low levels of popularity, but adequate functioning on the other indices of adjustment. However, this pattern of adjustment was associated with concurrent victimization only. Interpretation of this finding requires simultaneous consideration of correlation analyses. Specifically, popularity was negatively related to victimization in all analyses. However, looking at victimization and rejection, the significant zero-order correlation was effectively reduced to zero after controlling for stability in both victimization and rejection. Thus, any decrease in social status following victimization seems to relate more to decreased popularity rather than increased rejection. However, although victimization does not relate to changes in rejection that can be observed 2 years later, it does appear to co-occur with high levels of rejection and low levels of popularity. It may be that children choose victims from those who are disliked or dislike children who are regularly victimized and that these choices are based primarily on a child's current status. Clearly, children who are disliked will have fewer peers available to come to their defense and thus are easier targets for victimization (Hodges et al., 1999).

Victimization did not predict inclusion in the internalizing, low achieving, or absent subgroups. In fact, children in these groups tended to experience relatively low rates of victimization at both Times 1 and 2. This finding is noteworthy because previous re-

search taking a variable-oriented approach (as opposed to the person-oriented approach used here) has demonstrated that victimized children exhibit contemporaneous and subsequent diminished interest in school, sadness, and anxiety (Furlong et al., 2000; Ladd, Kochenderfer, & Coleman, 1997; Olweus, 1993; Slee, 1994). Moreover, our own variable-oriented analyses (i.e., correlations and partial correlations) revealed similar findings. In reconciling these apparently discrepant findings, it may be that internalizing and school maladjustment does occur in response to victimization but that it actually co-occurs with multiple adjustment problems as evidenced in the symptomatic group. Recall that these children tended to have high victimization scores at both Time 1 and Time 2. Thus, these findings suggest that the oft-noted connection between victimization and internalizing and academic difficulties occurs in the context of repeated victimization and multiple forms of maladjustment.

Limitations of the present study

We relied on teacher reports of children's externalizing and internalizing behaviors. Although teachers tend to be good reporters of children's externalizing behavior, they are less sensitive reporters of children's internal states (Hymel & Rubin, 1985). Moreover, the withdrawn subscale of the TRF taps a generalized set of behaviors that do not completely capture current conceptualizations of withdrawal, which emphasize multiple behavioral dimensions including unsociability, passivity, and isolation (Harrist, Zaia, Bates, Dodge, & Pettit, 1997).⁵ Thus, the anxiety/depression and withdrawal measures used in the present study are best considered as rough indicators of children's internalizing behaviors. Additional study is required to examine the role that anxious and depressed symptoms and social withdrawal play as outcomes of victim-

ization, individually and in combination with other variables.

In addition, the findings suggested that victimization can produce adverse consequences that persist over 2 years, indicating that the effects of victimization are not transitory but instead can continue over time. However, it is important to note that this study relied on a nonexperimental design, comparing data collected at two points in time. Although findings were consistent with a causal hypothesis, interpretations of causality are necessarily limited. Consequently, future research that tests the generalizability of these findings and that provides further support for the interpretation that victimization affects adjustment will be essential.

Finally, it is important to note that the effects obtained in these analyses, although statistically significant with a Bonferroni corrected Type I error rate, were modest in magnitude. Thus, the findings indicate that victimization, in and of itself, is only one influence on subsequent behavioral, emotional, social, and academic adjustment. Future research, that further examines the relative impact of other social and nonsocial experiences on adjustment, will therefore be valuable. Such research is necessary for the further advancement and refinement of models of the development of childhood adaptation and maladaptation.

Conclusion

This study examined the relations between victimization and adjustment over a 2-year period. In doing so, the findings raise important new questions about how children in the adjustment groups associated with victimization, particularly the symptomatic and externalizing groups, fare as they move into and through adolescence. The association between peer victimization experiences and the high levels of aggression and delinquency characteristic of the symptomatic and externalizing outcomes, particularly for boys and older youth, highlights the important connection between victimization and violence. There is a large and consistent literature linking early aggression with later serious aggression and

5. The items in the TRF (Achenbach, 1991) are "Likes to be alone," "Refuses to talk," "Secretive, keeps things to self," "Shy or timid," "Stares blankly," "Sulks a lot," "Underactive, slow moving, or lacks energy," "Unhappy, sad, or depressed," and "Withdrawn, doesn't get involved with others."

violence (e.g., Loeber & Farrington, 1998). However, as Cairns et al. (1998) note, developmental patterns such as those identified in this study may or may not represent enduring typologies. As a result, the developmental trajectories characterizing these different subgroups may converge or become more disparate as the children grow up. It will be important to identify factors that contribute to a continued escalation of problems for symptomatic and externalizing children and factors that intervene to mitigate their development. For instance, if peer victimization desists, would symptomatic children continue to show a symptomatic pattern of adjustment or would they develop a less extreme pattern of functioning?

In summary, the multiple negative conse-

quences of peer victimization suggest a need to focus future research on understanding the etiology of peer victimization and its interaction with other risk and protective factors, as well as the extent to which developmental patterns related to peer victimization endure and are related to subsequent and more severe adjustment problems. A focus on these developmental trajectories can highlight opportunities for prevention that include efforts to reduce taunting and bullying behaviors among peers, individually focused programs that mitigate a child's likelihood of being targeted for victimization, and programs that help children cope successfully with peer victimization to reduce its subsequent impact on social, emotional, and behavioral adjustment.

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