

Social skills training and aggression in the peer group.

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Longitudinal research indicates that aggressive children are at risk for continuing the coercive lifestyles that engendered their aggressive problems. Children who are aggressive at age 8 have a high probability of extending their aggressive behavior patterns into adulthood. Disruptive and bellicose children have a tendency to become adults who are at risk for marital conflict and child abuse, to engage in criminal behavior, and to become addicted to drugs and/or alcohol (e.g., Farrington, 1991; Huesmann, Eron, Lefkowitz, & Walder, 1984). Although aggressive behavior patterns are remarkably stable (Loeber, 1990; Olweus, 1979), they are expressed differently at various stages of development and are sensitive to different risk factors during those stages (Loeber, 1990). The interaction of individual characteristics with risk factors seems to determine the developmental path for aggressive children. In other words, children's behavioral, affective, and cognitive processes likely affect and are affected by parental and peer influences to direct the life course (Loeber, 1990). In this chapter, we focus on the role of peers in maintaining and exacerbating the developmental course of aggressive children. Peer influence is examined in the context of an intervention designed to interrupt the maladaptive trajectory of aggressive children by improving peer interactions.

#### Developmental course of aggressive children

Peer relations have been identified as a salient risk factor in the development of aggressive behavior problems. There is growing evidence that peer interaction plays multiple roles in social, cognitive, and moral development. In a review of research, Parker and Asher (1987) proposed a model to describe the contribution of peer relations to the development of antisocial behavior and maladjustment. This model identifies inadequate social skills as leading to low peer acceptance and deviant peer experiences. The intervention described in this chapter focuses on promoting children's social skills and improving their peer acceptance. The research measures and observations assess these two features of the model, as well as peer experiences in the naturalistic setting of the school playground.

Prior to entering the sphere of peer influences, children's socialization

experiences within the family play a major role in developing aggressive behaviors (Patterson, 1986). Parents of aggressive children appear to fail in teaching compliance and appropriate social problem solving. Furthermore, according to Patterson (1982), these parents inadvertently reinforce the use of aversive and aggressive behaviors, which leads to coercive family interactions. Within the family context, aggressive children's formative experiences appear to be imbalanced in favor of learning antisocial, aggressive behaviors.

As they move beyond the family, aggressive children tend to transfer established patterns of noncompliance and antisocial behavior to peer and school contexts. For many aggressive children, interactions with teachers and peers become similarly coercive, and consequently, aggressive children are likely to experience both academic and peer relational problems (Patterson, 1986). Observations of aggressive children in peer interaction reveal a continuity with the coercive behavior patterns established at home. Aggressive children exhibit significantly more inappropriate play, insults, threats, hitting, and exclusion of peers than do average children (Dodge, 1986; Dodge, Coie, Pettit, & Price, 1990). They are less likely to engage in social conversation or to continue in group activities than are other children (Coie & Kupersmidt, 1983; Dodge, 1986). As in family interactions, there appears to be an imbalance in peer interactions, with many negative behaviors and few positive behaviors directed toward peers.

This pattern of behaviors tends to establish interactions and perceptions that are hostile in both directions. Aggressive children's negative behaviors are met with negative responses by peers (Dodge, 1986). For many aggressive children, these negative peer interactions lead to peer rejection. This developmental course from aggressive behavior to low peer acceptance has been demonstrated by the research of Dodge (1986) and Coie and Kupersmidt (1983). They introduced aggressive boys to a group of unfamiliar peers. The aggressive boys' behavior with peers was maladaptive, and within three sessions they had acquired a negative status within the new peer group (Coie & Kupersmidt, 1983). As a consequence of their unskilled social behavior,

aggressive boys tended to be quickly rejected by unfamiliar peers.

Once children have established negative reputations and have been rejected by peers, a number of other behavioral and social-cognitive processes appear to support and elicit deviant behaviors. First, some deviant behaviors develop in response to peer rejection. Observations of aggressive boys indicate that they tend to increase inappropriate social behaviors and decrease social approaches to peers after acquiring a negative reputation (Coie & Kupersmidt, 1983; Dodge *et al.*, 1990). Second, peer relations of aggressive children are characterized by reciprocally hostile perceptions and expectations between aggressive children and their peers. Aggressive children develop a bias toward interpreting peers' behaviors as hostile, and peers tend to perceive aggressive children as hostile and to blame them for negative behaviors (Dodge, 1980; Dodge & Frame, 1982; Hymel, Wagner, & Butler, 1990). This reciprocal hostile attributional bias likely supports hostile interactions between aggressive children and their peers. A cycle of behaviors and cognitions may be established that maintains and exacerbates negative interactions between rejected, aggressive children and their peers (Hymel *et al.*, 1990).

Third, the trend for rejected children to associate less and less with popular and skilled members of the social group and more with other rejected children may support aggressive behavior patterns (Cairns & Cairns, 1991; Hartup, 1989; Snyder, Dishion, & Patterson, 1986). Aggressive children tend to associate with children who will accept them and who are like themselves in terms of behaviors, values, and goals (Hymel *et al.*, 1990). Many aggressive children become members of the "out-group" rather than the "in-group", and their socialization experiences are further imbalanced in the direction of negative and coercive interactions. Limited opportunity for positive peer interactions may place rejected children at risk for continuing to learn and employ aggressive behaviors (Parker & Asher, 1987).

In considering the socialization experiences of aggressive children, it becomes apparent that a linear, unidirectional causal model is inadequate to capture the complexities of the process. There are several feedback loops that may exacerbate the

situation for aggressive children. First, negative peer experiences impact on socialization efforts within the family. As aggressive children acquire increasingly deviant behavior patterns with peers, parents tend to experience more difficulty in controlling and monitoring their children's behaviors at home (Capaldi, 1992; Patterson, 1982, 1986). Second, aggressive children's increasingly deviant social behaviors in peer interactions may provide additional support to peers' negative perceptions and rejection of them. Finally, the isolation of many aggressive children and the formation of out-groups of deviant peers may further contribute to the development of antisocial behaviors (Cairns, Cairns, Neckerman, Gest, & Gariépy, 1988). These negative socialization processes within the peer group are postulated to set antisocial children on a path of alienation and further deviance.

In summary, theoretical models and empirical data suggest that aggressive children's dysfunctional behavioral, affective, and cognitive processes are initiated at home and transferred to the peer group, where they may be fostered, maintained, and exacerbated. While the models and data may represent the developmental path for a large proportion of aggressive children, it is important to recognize that there is considerable variability in the developmental trajectories of aggressive children. The development of antisocial behavior depends on the interaction of individual characteristics and exposure to risk factors at critical developmental periods (Loeber, 1990). There may also be factors that protect children from negative socialization experiences. Protective factors may reside within the child (e.g., leadership qualities, intelligence) or within his or her social system (e.g., a significant adult who supports the child in developing appropriate social skills and self-confidence) (Rutter, 1990). Given that aggressive children comprise a heterogeneous group, interventions need to be formulated with both a central tendency and an individual difference perspective (Loeber, 1990). A potential point of intervention in the developmental trajectory of aggressive and antisocial behavior is when children demonstrate poor social skills and begin to experience problems in peer relations.

*Social skills training: interrupting the negative socialization process*

Social skills training has been implemented to provide aggressive children with a foundation in the prosocial behaviors and social-cognitive skills in which they are deficient and that are necessary for successful peer interaction. School-based programs are ideal for this type of intervention because school is a primary context in which children interact with peers, providing a natural opportunity to assess and train their peer relational skills.

The research described in this chapter extended our work on social skills training with aggressive children (Pepler, King, & Byrd, 1991; Pepler, King, Craig, Byrd, & Bream, 1992). In our previous evaluations of the effectiveness of social skills training, teachers and parents generally perceived an improvement in the behavior problems and social skills of aggressive children; however, peer assessments failed to reflect a similar improvement (Pepler *et al.*, 1992). The discrepancy between adult and peer perceptions of aggressive behaviors has led us to consider potential reasons for the lack of success in improving the peer reputations of aggressive children through social skills training.

There are two lines of reasoning to explain the discrepancy between adult and peer perceptions of aggressive children. The first possibility is that there was no change in the peer behaviors of children following social skill training, but there may have been a change in interactions with teachers and other adults; or teachers and parents who had participated in the program may have misperceived improvements. Conversely, there may have been an improvement in the behaviors of aggressive children toward peers after social skills training, but peers may have failed to recognize these improvements, perhaps because their expectations led them to continue interpreting the aggressive children's behavior as aggressive. Reputational processes and peer interactions may continue to elicit and support negative behaviors and perceptions. The research described in this chapter employed direct observations of peer interactions on the playground to investigate behavioral improvement with social skills training and the role of peers in ameliorating or exacerbating aggressive

behavior problems.

### Method

The Earls court Social Skills Group Programme (ESSGP) is a didactic, experiential program designed to improve the self-control and social skills of aggressive, noncompliant children between the ages of 6 and 12. This school-based program is offered to groups of seven children twice a week for 12 to 15 weeks. Eight basic skills are taught: problem solving, knowing your feelings, listening, following instructions, joining in, using self-control, responding to teasing, and keeping out of fights. Parent groups are offered to parents of children in the program to facilitate the children's learning of the skills and to help parents acquire new child management techniques. Other efforts are directed to the generalization of learned skills to the classroom and peer interactions. These include homework assignments, teacher involvement and contact, and the teaching of a skill to the child's entire class (see Pepler *et al.*, 1991, for more details on the program).

### *Subjects*

The present study comprised 41 aggressive children (30 boys and 11 girls) and 41 nonaggressive children matched on age, gender, and ethnicity. The children were in Grades 1 to 6 in two elementary schools within metropolitan Toronto. Their mean age was 9.7 years. The subjects were from low- to middle-income families and varied with respect to ethnicity (43% Caucasian, 25% African descent, 14% Asian descent, and 18% mixed or other ethnicity). The aggressive children participated in either a fall or spring social skills training program. The data for the fall and spring cohorts were combined for the analyses.

The children were nominated by their classroom teachers as aggressive or socially competent. Group assignment was validated by comparing the teacher-nominated aggressive children to a sample of teacher-nominated socially competent children on the Teacher Report Form of the Child Behavior Checklist (CBCL) and on peer nominations. Teachers rated the aggressive children as having behavior problems in the clinical range and significantly more behavior problems than did the

nonaggressive children,  $F(3, 37) = 24.1, p < .001$ . There were also significant differences between the aggressive and nonaggressive groups on the peer reputation measure,  $F(3, 69) = 21.6, p < .001$ . Aggressive children were rated by same-sex peers as having a significantly less positive [ $F(1, 71) = 10.85, p < .001$ ] and more aggressive reputation [ $F(1, 71) = 55.28, p < .001$ ] than did nonaggressive children.

### *Instruments*

The following instruments were administered to the aggressive children, their teachers, or classmates in the fall, winter, and/or spring. The fall and winter data comprised pre- and post-tests for children in the fall social skills program, whereas the winter and spring data comprised pre- and post-tests for children in the spring social skills training program.

*Child measure.* The Marsh Self-Description Questionnaire (Marsh, Smith, & Barnes, 1983) was administered to all aggressive and nonaggressive children. The questionnaire comprises eight subscales: physical abilities, physical appearance, relationships with peers, relationship with parents, reading, mathematics, school subjects, and total self-concept. The questionnaire was administered individually: children in primary grades (1 to 3) answered on a 3-point scale; children in junior grades (4 to 6) answered on a 5-point scale. Scores were standardized within grade level to account for the differences in scales.

*Teacher measures.* Teachers completed two measures for all aggressive and nonaggressive children in the study. First, they completed the Teacher Report Form of the Child Behavior Checklist (CBCL-TRF) (Achenbach & Edelbrock, 1986). This is a 118-item measure that assesses behavior problems on two broad dimensions: internalizing and externalizing. The externalizing scale taps aggressive, hyperactive, and delinquent behavior problems, whereas the internalizing scale assesses problems such as anxiety, withdrawal, and depression. The scales have been normed and standardized, providing indications of behavior problems in the clinical range (i.e., in the top 10% for age group and gender).

The teacher version of the Marsh Self-Description Questionnaire (Marsh *et al.*,

1983) was completed by classroom teachers for all aggressive and nonaggressive children. On this measure, teachers indicate what they believe the child's self-concept is for the same eight domains on the child self-concept measure.

*Peer measures.* All classmates of children in the study completed two peer measures, which were administered individually to children in Grades 1 to 3 and were group administered to children in Grades 4 to 6. Peer reputations were rated with a measure adapted from the Revised Class Play assessment (Masten, Morison, & Pelligrini, 1985). Children were asked to pretend that they were directors in a play and choose a classmate who would best play each of the parts of someone who starts fights, disturbs others, gets angry easily, cooperates, is a leader, is good at sports, is funny, is unhappy, plays fair, is often left out, picks on other kids, has trouble making friends, and has many friends. Scores were standardized within class by gender. This measure yields three scores for sociability-leadership, aggressive-disruptive, and sensitive-isolated.

Classmates of children in the study also completed a sociometric status measure (Asher & Dodge, 1986). Students were asked to nominate three children in their class with whom they like to play during recess or lunchtime. In addition, they rated how much they liked to play with each of their classmates on a 5-point scale. Peer liking, disliking, social impact, and social preference scores were computed, as well as sociometric status categories; all scores were standardized within class by gender (see Coie & Dodge, 1988).

#### *Observations of playground interactions*

Children wore a remote microphone and were videotaped for two 10-minute periods during unstructured time on the playground at three points in time (fall, winter, and spring) corresponding to the questionnaire administration (see Pepler & Craig, 1994, for details of the observation technology and procedure). Videotapes were coded by research assistants blind to group membership. Coding was conducted in two stages: first for play states and a second time for a fine-grained analysis of behaviors. Coded states included unoccupied, solitary engaged, onlooker, parallel,

together, cooperative play, and fantasy play. Behaviors coded included talk, verbal rejection, verbal attack, gossip, touch, rough and tumble play, and physical aggression. Each behavior was coded for affective valence on a 5-point scale from unrestrained positive to unrestrained negative. For example, an aggressive behavior could be coded with positive valence (when accompanied by laughter and positive affect) or with negative valence (when accompanied with angry facial gestures and harsh tone of voice). The social overtures and responses of peers to the target children were also coded. Kappa coefficients were calculated for the frequencies, durations, and sequences of states and events with a 5-second tolerance interval. Kappas were .76 for state coding and .69 for event coding.

### Results

To compare the ratings and behaviors of aggressive and nonaggressive children and to assess the effectiveness of social skills training, we conducted 2 (group) x 2 (time: pre-post) multivariate analyses of variance for repeated measures. Means, standard deviations, and  $F$  values (group by time) for the outcome measures are reported in Table 13.1.

*Self-concept: child rating.* Children's responses on the self-description questionnaire indicated that both aggressive and nonaggressive children perceived themselves very positively at both pre- and post-training times. There were no significant main effects or interactions.

*Self-concept: teacher rating.* When teachers were asked about children's self-concept, their ratings indicated that the aggressive children had lower self-esteem than did nonaggressive children, multivariate  $F(7, 53) = 3.09, p = .008$ . The group by time interaction was not significant, indicating no improvement in these teacher ratings following social skills training.

*Teacher ratings of behavior problems.* There was a significant group by time interaction for teachers' ratings of behavior problems, multivariate  $F(3, 37) = 4.73, p = .007$ . Ratings of aggressive children's behavior problems were significantly lower following social skills training, with fewer externalizing and total behavior problems.

Table 13.1. Means and F values of outcome measures as a function of group and time

Group measure	Aggressive		Nonaggressive		$F^a$	$p$
	Pretest	Post-test	Pretest	Post-test		
Self-concept <sup>b</sup> (child rating)	0.1 (1.1)	-0.2 (0.9)	0.2 (0.9)	0.0 (1.0)	.13	ns
Self-concept (teacher rating)	5.5 (1.6)	5.6 (6.8)	7.0 (1.5)	6.8 (1.5)	1.68	ns
TRF Ext. <sup>c</sup>	64.9 (7.1)	58.1 (10.4)	43.8 (3.9)	44.1 (3.9)	14.5	.00
TRF Int. <sup>c</sup>	55.8 (7.0)	50.1 (6.4)	46.4 (5.2)	44.2 (2.6)	3.0	.09
TRF total <sup>c</sup>	63.3 (7.1)	55.9 (10.9)	41.7 (5.1)	40.9 (4.7)	11.0	.002
Peer sociable <sup>b</sup>	- 0.8 (1.8)	- 0.7 (2.8)	0.7 (3.2)	- .7 (2.8)	0.3	ns
Peer aggressive	3.1 (3.9)	4.1 (4.4)	- 1.4 (1.3)	- 1.2 (1.6)	0.7	ns
Peer isolated	0.4 (2.0)	0.4 (1.8)	- 0.6 (0.9)	- 0.8 (1.0)	0.3	ns
Peer like	-0.2 (1.1)	0.0 (1.0)	0.0 (1.0)	0.3 (1.0)	0.0	ns
Peer dislike	0.6 (0.1)	0.2 (1.2)	- 0.7 (0.6)	- 0.6 (0.7)	5.9	.02
Peer preference	- 0.5 (1.1)	- 0.1 (1.2)	0.3 (0.8)	0.5 (0.8)	1.2	ns

(Table continues)

Group measure	Aggressive		Nonaggressive		$F^a$	$p$
	Pretest	Post-test	Pretest	Post-test		
Peer impact	0.3 (1.0)	0.2 (1.0)	- 0.6 (0.7)	- 0.3 (0.9)	3.7	.06

Note: Standard deviations are in parentheses.

<sup>a</sup> F values are for group by time interactions.

<sup>b</sup> Mean scores on the child self-concept and the peer ratings are expressed as standardized scores (i.e., Z scores).

<sup>c</sup> Higher scores on the externalizing, internalizing, and total scales indicate more behavior problems.

Ratings for the nonaggressive children indicated few behavior problems and remained stable over time.

*Peer ratings.* There was a significant main effect for group on the peer reputation measure with the aggressive group being rated as more aggressive and isolated and less sociable than the nonaggressive group, multivariate  $F(3, 59) = 20.19$ ,  $p < .001$ . There was no significant main effect for time or group by time interaction, indicating that peer reputations for both the aggressive and nonaggressive children remained stable over time.

Table 13.2. *Distribution of aggressive and nonaggressive children in sociometric classifications before and after social skills training*

Group classification	Aggressive		Nonaggressive	
	Pretest	Post-test	Pretest	Post-test
Popular	4	6	11	7
Average	4	4	6	1
Controversial	4	6	0	0
Rejected	15	5	1	1
Neglected	3	3	7	6
Other	13	17	16	26

In contrast to peer reputation data, the peer sociometric classifications indicated improvement following social skills training (see Table 13.2 for the distributions of aggressive and nonaggressive children by sociometric classifications). Prior to social skills training, 37% of the aggressive children and 2% of the nonaggressive children were rejected according to peer ratings. Following social skills training, 12% of the aggressive children and 2% of the nonaggressive children were rejected. There was a significant difference in the proportions of rejected children in the aggressive group before and after social skills training,  $Z = 2.20$ ,  $p < .05$ . There was no difference in the proportions of nonaggressive children rejected at pre- and post-tests.

The peer liking, disliking, social impact, and social preference scores indicated a main effect for group, multivariate  $F(4, 55) = 7.84$ ,  $p < .001$ . The aggressive children were more disliked, less preferred, and had higher social impact scores than did nonaggressive children. The univariate analysis indicated a significant group by time interaction for dislike scores. The aggressive children were rated by peers as less disliked following social skills training, suggesting an improvement in the quality of their peer relations. Peer ratings for the nonaggressive children remained relatively constant.

These self, teacher, and peer reports present conflicting results. Aggressive children reported positive self-perceptions, whereas teachers rated aggressive children as having poorer self-concepts than did nonaggressive children, with no improvement following social skills training. Teachers rated aggressive children's behavior problems in the clinical range prior to social skills training and significantly improved following training. Peer ratings of aggressiveness did not reflect an improvement following social skills training. Peer sociometric ratings, however, indicated improvement in two domains: fewer aggressive children were rejected by their classmates, and they were less disliked following social skills training. While peers did not perceive aggressive children's behavior problems as improved, their perceptions of the aggressive children were less negative following social skills training. To understand these discrepancies,

we conducted naturalistic playground observations of the aggressive children before and after social skills training.

*Observations of playground interactions*

For the playground observations, children were observed an average of 20, 23, and 24 minutes in the fall, winter, and spring, respectively. Individual times ranged from 5 to 59 minutes. There were 26, 49, and 46 children filmed on the playground in the three observations periods, respectively. State and behavioral data on playground interactions were analyzed to assess the effectiveness of social skills training on the peer interactions of aggressive children and to compare their behavior with that of nonaggressive peers.

Table 13.3. *Mean times spent in solitary activities and peer contexts as a proportion of total time observed (percent).*

Group play state	Aggressive		Nonaggressive	
	Pretest	Post-test	Pretest	Post-test
Solitary	0.09	0.09	0.12	0.10
	(0.15)	(0.09)	(0.16)	(0.10)
Peer	0.64	0.73	0.65	0.72
	(0.23)	(0.18)	(0.21)	(0.19)

Note: Solitary activities included the following states: unoccupied, solitary engaged, and onlooker. Peer activities included parallel play, together, together touching, cooperative play, and fantasy play. States were summed across targets (same- and opposite-sex peers and same- and mixed-sex peer groups). Proportions do not total 1.00 because some states ("uncodable") and some targets ("unknown," "staff") were not included in the analysis. Standard deviations are in parentheses.

*States*

Proportional times for states were summed to form two categories: solitary (unoccupied, solitary engaged, and onlooker) and with peer (parallel, together, together touching, cooperative play, and fantasy play). These two states were the dependent variables in a 2 (group) by 2 (pre-post) repeated measures multivariate

analysis of variance with equal cell weights.

Across all conditions and groups, children spent significantly more time with peers than in solitary activities. Children spent a mean of 10% of their observed time in solitary activities (95% confidence interval = 7.8 to 12.3) compared with 68% in peer contexts (95% confidence interval = 64.8 to 72.2). As shown in Table 13.3, there were no significant differences between the aggressive and nonaggressive groups for either peer or solitary activities, multivariate  $F(2, 57) = 0.57, p > .55$ . Nor was there, contrary to our expectation, a significant time by group interaction, multivariate  $F(2, 57) = 0.40, p > .65$ .

### *Behaviors*

In the analysis of behavior observed on the playground, two types of aggression were examined: verbal and physical (including all valence ratings). These were identified as initiated by the aggressive and nonaggressive target children or received by them. Rates (events per minute) for verbal and physical aggression were entered as dependent variables in a 2 (group) by 2 (pre-post) repeated measures multivariate analysis of variance with equal cell weights. The MANOVA for initiated behavior indicated that the aggressive children were generally more aggressive than the nonaggressive children, multivariate  $F(2, 46) = 3.41, p < .05$  (see Table 13.4). This was accounted for primarily by a significant group difference in verbal aggression, univariate  $F(1, 47) = 6.96, p < .02$ ; there was no difference between groups in the rate of physical aggression, univariate  $F(1, 47) = 1.03, p > .30$ .

Contrary to expectations, rates of aggression did not change following social skills training: neither the main effect for time nor the time by group interaction was significant, multivariate  $F(2, 46) = 0.98, p > .35$ , and  $F(2, 46) = 0.11, p > .85$ , respectively.

Despite a greater frequency of initiated verbal aggression, aggressive children were no more likely than nonaggressive children to be the targets of aggression by peers, multivariate  $F(2, 46) = 0.69, p > .50$ , a situation that was stable over time, multivariate  $F(2, 46) = 0.16, p > .85$ , for the main effect; for the time by group

interaction, multivariate  $F(2, 46) = 1.35, p > .25$ .

Table 13.4. Mean rates (per minute) of verbal and physical aggression initiated by child and received from peers.

Group behavior	Aggressive		Nonaggressive	
	Pretest	Post-test	Pretest	Post-test
<i>Initiated behavior</i>				
Verbal aggression	0.05 (0.08)	0.06 (0.09)	0.01 (0.02)	0.03 (0.06)
Physical aggression	0.11 (0.15)	0.13 (0.13)	0.09 (0.12)	0.10 (0.10)
<i>Received behavior</i>				
Verbal aggression	0.10 (0.02)	0.02 (0.03)	0.01 (0.03)	0.02 (0.05)
Physical aggression	0.09 (0.13)	0.06 (0.07)	0.09 (0.09)	0.12 (0.16)

Note: Standard deviations are in parentheses.

### Discussion

The purpose of this study was to evaluate the effectiveness of social skills training with aggressive children from multiple perspectives: self-ratings, teacher ratings, peer ratings, and naturalistic observations of playground interactions. While aggressive children themselves did not indicate that they were experiencing problems at any time, teacher and peer ratings indicated that the aggressive children in this study exhibited a wide range of behavior problems and had negative peer reputations prior to social skills training. Teachers' ratings of the children indicated a significant improvement in aggressive behavior problems following social skills training. Peer

ratings of aggressiveness, however, did not reflect a similar improvement. On the other hand, a substantial proportion of the aggressive children were no longer rejected by peers, and they were rated as less disliked by peers following social skills training. Our analyses of playground interactions present a picture of relatively stable behavior patterns. With social skills training, there was no change in the duration of time that aggressive children spent in the company of others or in the rate of aggression by these children or directed to these children.

To some extent, the results of this research replicate those of our earlier evaluations of social skills training: teachers indicated that social skills training was effective, whereas peer ratings of aggressive behavior did not reflect an improvement in the behavior problems of aggressive children. Although behavioral improvements were not evident in observations of playground behavior, perhaps there was an improvement in the classroom, which formed the basis for teachers' ratings. The social skills training was adult directed and somewhat didactic; therefore, skills may have readily generalized to the classroom and interactions with teachers. On the other hand, teachers' ratings may reflect their hopes and aspirations that these disruptive children would change with the panacea of social skills training. We are currently analyzing classroom observations of the aggressive children to determine whether there were actual behavioral changes in the context in which teachers' judgments were based.

Peer assessments of aggressive behavior problems indicate no change following social skills training. These peer assessments correspond to the observed stability in playground behaviors. Peers may be in a better position than teachers to judge aggressive children's behavioral improvements in peer interactions. In general, teachers may be relatively unaware of the nature of playground interactions and, therefore, unable to make judgments about the quality of peer behaviors. This lack of awareness by teachers is suggested by a subsequent analysis of the playground tapes. We found that teachers intervened in only 3% of bullying episodes on the playground and only appeared in the camera frame during an additional 11% of the

episodes (Craig & Pepler, 1994).

While classmates' perceptions of behavior problems revealed no improvement, their sociometric ratings of aggressive children were not as negative following social skills training. Aggressive children appear to have become more accepted by their peers following the interventions. This parallels the improvement in teacher ratings. Classmates may also have based their ratings on improvements in behavior problems within the classroom, as there were no changes in observed playground behaviors. Several questions remain regarding the nature of aggressive children's playground interactions and the role of peers. Why do aggressive children continue to initiate aggressive interactions, even after extensive social skills training? Are there processes within the peer group that maintain aggressive children's involvement in coercive interactions with peers? Do negative peer reputations, hostile attributional biases, and alienation processes underlie the stability of reciprocally hostile interactions between aggressive children and their peers?

In this study, the effectiveness of social skills training was assessed, in part, by naturalistic observations on the playground, where aggressive children were expected to demonstrate their newly acquired skills. The transfer of skills from formal training sessions to naturalistic interactions appears to be more difficult than anticipated. There were no improvements in the rates of aggressive behaviors following social skills training. On the other hand, aggressive children were not isolated: they spent as much time with peers as did nonaggressive children. The nature of peer interaction, however, may provide a clue to the difficulty of ameliorating aggressive behavior problems. Aggression appears to be somewhat normative on the playground, being exhibited by both groups within the present study. While aggressive children were observed to be more verbally aggressive than were their peers, they were not much more physically aggressive than children identified by teachers as socially competent. Aggressive children physically attacked others about once every 5 minutes, whereas nonaggressive children attacked others about once every 6 minutes. Aggressive and nonaggressive children were equally likely to initiate or be the recipients of physical

aggression. Given the ambient levels of aggression on the playground, it may be difficult for aggressive children to employ their newly acquired social skills. Future research must examine the processes within the peer group that may be responsible for sustaining coercive interactions on the playground.

Peer relations have been identified as a critical risk factor in the developmental course of antisocial behavior (e.g., Patterson, DeBarsyshe, & Ramsey, 1989). It follows that interventions with aggressive children must take into account negative peer influences by directly involving peers who comprise part of the problem. Social skills training has been utilized as an intervention to interrupt the negative socialization processes within the peer group. The basic tenet of social skills training is that providing aggressive children with critical social and social-cognitive skills will enable them to experience successful interactions with peers. The data emerging from this study suggest that processes associated with peer interaction are complex and may contribute to the problems of aggressive children. Consequently, social skills training for aggressive children may be inadequate unless it encompasses the peer group. Other researchers have begun to document the difficulties that aggressive children experience at the hands of their peers. Peer interactions involving aggressive children are reciprocally coercive, similar to their interactions within the family (Patterson, 1982). For example, Huesmann, Eron, and Guerra (1992) describe aggressive children being victimized at the hands of their peers. Interventions therefore must reflect the bidirectional nature of the coercive interaction and address not only the problematic behavior patterns of aggressive children, but also the behaviors of peers that may instigate, maintain, and/or exacerbate the antisocial behaviors of aggressive children.

The results of this study substantiate the call for a multiple systems perspective within interventions for aggressive children (Kazdin, 1987). The targeted problems must be clearly specified and relevant to the context in which change is expected. In the present study, social skills training was limited to an adult-directed group experience with other aggressive children. The change in teacher perceptions suggests that the targeted skills and program delivery may have been appropriate for

improving behaviors in an adult-directed context but not adequate to transfer to the playground context where peer interactions are dominant.

One approach to studying the life history of antisocial individuals is to intervene in their developmental trajectory by targeting a putative risk factor (Tremblay, this volume). With this intervention study, we have attempted to interrupt the well-documented continuity of antisocial behaviors over time by addressing the peer problems of aggressive children. The intervention appears to be effective in changing aggressive children's behavior within a classroom context, as reported by teachers. Social skills training also ameliorated negative peer perceptions of aggressive children; however, it did not seem to improve classmates' ratings of aggressiveness or observed aggressiveness on the playground. At this point, we are pursuing several analyses of the observational data to explore this dilemma. First, there may be individual differences in responsiveness to the program that are obscured by group data. We know that a number of children were no longer rejected by their peers at the end of social skills training. Perhaps the peer interactions of these children will reflect improvement following social skills training. Second, we are examining qualitative features of aggressive and nonaggressive children's peer interactions. For example, are the interactions of aggressive children marked by more hostility and anger? If we can differentiate the qualities of positive and negative peer relations, this will provide direction for future interventions of this nature. Finally, we are continuing to explore the methodology of remote observations as a unique means of entering the world of aggressive children and understanding the complexities of their peer interactions.

References

- Achenbach, T. M., and Edelbrock, C. (1986). *Manual for the Teacher's Report Form and Teacher Version of the Child Behavior Profile*. Burlington: University of Vermont, Department of Psychiatry.
- Asher, S. R., & Dodge, K. A. (1986). Identifying children who are rejected by their peers. *Developmental Psychology, 22*, 444-449.
- Cairns, R. B., & Cairns, B. D. (1991). Social cognition and social networks: A developmental perspective. In D. Pepler & K. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 389-410). Hillsdale, NJ: Erlbaum.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., Gest, S. D., & Gariépy, J.-L. (1988). Social networks and aggressive behavior: Peer support or peer rejection? *Developmental Psychology, 24*, 815-823.
- Capaldi, D. M. (1992). Co-occurrence of conduct problems and depressive symptoms in early adolescent boys: II. A 2-year follow-up at Grade 8. *Development and Psychopathology, 4*, 125-144.
- Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. *Child Development, 59*, 815-829.
- Coie, J. D., & Kupersmidt, J. B. (1983). A behavioral analysis of emerging social status in boys' groups. *Child Development, 54*, 1400-1416.
- Craig, W. M., & Pepler, D. J. (1994). Naturalistic observations of bullying and victimization in the school yard. Manuscript submitted for publication.
- Dodge, K. A. (1980). Social cognition and children's aggressive behavior. *Child Development, 51*, 162-170.
- Dodge, K. A. (1986). A social information processing model of social competence in children. In M. Perimutter (Ed.), *Minnesota Symposia on Child Psychology* (pp. 77-125). Hillsdale, NJ: Erlbaum.
- Dodge, K. A., Coie, J. D., Pettit, G. S., & Price, J. M. (1990). Peer status and aggression in boys' groups: Developmental and contextual analyses. *Child*

*Development*, 61, 1289-1309.

Dodge, K. A., & Frame, C. L. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development*, 51, 620-635.

Farrington, D. (1991). Childhood aggression and adult violence: Early precursors and later-life outcomes. In D. Pepler & K. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 411-448). Hillsdale, NJ: Erlbaum.

Hartup, W. W. (1989). Social relationships and their developmental significance. *American Psychologist*, 44, 120-126.

Huesmann, L. R., Eton, L. D., Lefkowitz, M. M., & Walder, L. O. (1984). The stability of aggression over time and generations. *Developmental Psychology*, 20, 1071-1078.

Huesmann, L. R., Eron, L. D., & Guerra, N. G. (1992, April). *Victimization and aggression*. Paper presented at the Society for Life History Research Meetings, Philadelphia.

Hymel, S., Wagner, E., and Buder, L. J. (1990). Reputational bias: View from the peer group. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood*. Cambridge University Press.

Kazdin, A. E. (1987). Treatment of antisocial behavior in children: Current status and future directions. *Psychological Bulletin*, 102, 187-203.

Loeber, R. (1990). Development and risk factors of juvenile antisocial behavior and delinquency. *Clinical Psychology Review*, 10, 1-41.

Marsh, H. W., Smith, I. D., & Barnes, J. (1983). Multitrait-multimethod analyses of the Self-Description Questionnaire: Student-teacher agreement on multidimensional ratings of student self-concept. *American Educational Research Journal*, 20, 333-357.

Masten, A. S., Morison, P., and Pelligrini, D. S. (1985). A revised class play method of peer assessment. *Developmental Psychology*, 21, 523-533.

Olweus, D. (1979). Stability of aggressive reaction pattern in males: A review. *Psychological Bulletin*, 86, 852-872.

Parker, J. G., and Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin*, 102-103, 357-389.

Patterson, G. R. (1982). *Coercive family process: A social learning approach*, Vol. 3. Eugene, OR: Castalia.

Patterson, G. R. (1986). Performance models for antisocial boys. *American Psychologist*, 41, 432-444.

Patterson, G. R., DeBarsyshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, 44, 329-335.

Pepler, D.J. & Craig, W.M. (1995). A peek behind the fence: Naturalistic observations of aggressive children with remote audio-visual recording. *Developmental Psychology*, 31, 548-553.

Pepler, D. J., King, G., & Byrd, W. (1991). A social-cognitively based social skills training program for aggressive children. In D. Pepler & K. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 411-448). Hillsdale, NJ: Erlbaum.

Pepler, D. J., King, G., Craig, W., Byrd, W., & Bream, L. (1992). *Effectiveness of social skills training with aggressive children*. Unpublished manuscript.

Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. Masten, D. Cicchetti, K. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology*. Cambridge University Press.

Snyder, J., Dishion, T. J., & Patterson, G. R. (1986). Determinants and consequences of associating with deviant peers during preadolescence and adolescence. *Journal of Early Adolescence*, 6, 29-43.