

*Children's Interpersonal Skills and Relationships in School Settings: Adaptive Significance and Implications for School-Based Prevention and Intervention Programs*

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**Introduction**

Schools, and the classrooms they contain, are among the most pervasive socialization contexts in our culture, and potentially one of the most influential for shaping human development over the life span. Of all children between the ages of 5 and 18 in the United States, 9 out of 10 attend school (Coie et al., 1993), and 12% to 30% of these children exhibit moderate to severe adjustment problems in the classroom (e.g., Achenbach & Edelbrock, 1981; Coie et al., 1993). Because early school adjustment problems foreshadow many types of dysfunction over the life cycle (Ladd, 1996; 1999; Parker & Asher, 1987), it is important to understand the processes through which children adapt to school.

Schools are challenging contexts for children by nature and design. These challenges include the instructional features of classrooms, such as didactic small- and large-group instruction, teacher-initiated/monitored learning activities, and programmatic curriculum sequences. At present, much is known about children's cognitive and linguistic skills, and their socioeconomic and ethnic backgrounds as precursors of their adjustment and achieve-

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ment. Less well recognized are the many types of interpersonal challenges that children confront in school. As children enter school, they are typically faced with shifting social ecologies, relationships, and resources. Beyond basic tasks such as relating with classmates and forming ties with teachers, children find that they are under increasing pressure to compare and evaluate themselves, their abilities, and their achievements to those of classmates. Many of these challenges are repeated as children progress through the grades. In each new classroom they must negotiate their needs in dyadic and group settings and re-establish relationships with classmates and teachers. Moreover, it is likely that these challenges are intensified when children change schools or cope with school transitions (see Eccles, Wigfield, & Schiefele, 1998; Ladd, 1996).

Thus, an important task facing educational and developmental researchers is to investigate the role of children's classroom interpersonal skills and relationships as precursors of school adaptation and adjustment. Given the complexity of this phenomenon, there is a need to construct models that will focus the search for interpersonal antecedents, and provide a context for understanding how these factors impact children's school adjustment. It will also be important to consider not only how specific interpersonal factors exert an influence on adjustment, but also which aspects of children's school adjustment are affected by these factors.

### *Premises examined in this review*

Two primary premises are examined in this chapter. First, we contend that, especially among younger children, it is unlikely that cognitive, linguistic, or family factors fully explicate the processes that account for children's school adjustment and progress. Rather, our position is that, in order to obtain a more complete picture of the processes and mechanisms that "attach" children to school and enable them to adapt to challenges within this environment, it is necessary to consider interpersonal factors as well, particularly the adaptive significance of children's interpersonal skills and relationships with classmates and teachers. Second, we contend that the concept of school adjustment has been construed too narrowly in past research, and should be expanded to include other relevant indicators of children's success or maladaptation in this setting. Alternatively, the concept of *school adjustment* is seen as a multidimensional construct that includes children's attitudes toward school, their affect in the classroom, their engagement or participation in the learning environment, and their scholastic progress (see Ladd, 1989, 1996).

Toward this end, a child-by-environment model (cf. Coie et al., 1993) of the interpersonal antecedents of children's school adjustment is presented in Figure 20.1, with paths representing premises about how child attributes, background variables, and interpersonal factors affect each other and, ultimately, children's adjustment to school. Over the years, evidence has been gathered to address each of these pathways, including the link between children's classroom behavior and their relationships with peers and teachers, the link between classroom relationships and school adjustment, and the mediated link from children's behavior through classroom relationships to facets of school adjustment. These three pathways provide a conceptual focus for this review, and an opportunity to evaluate empirical evidence for each premise.

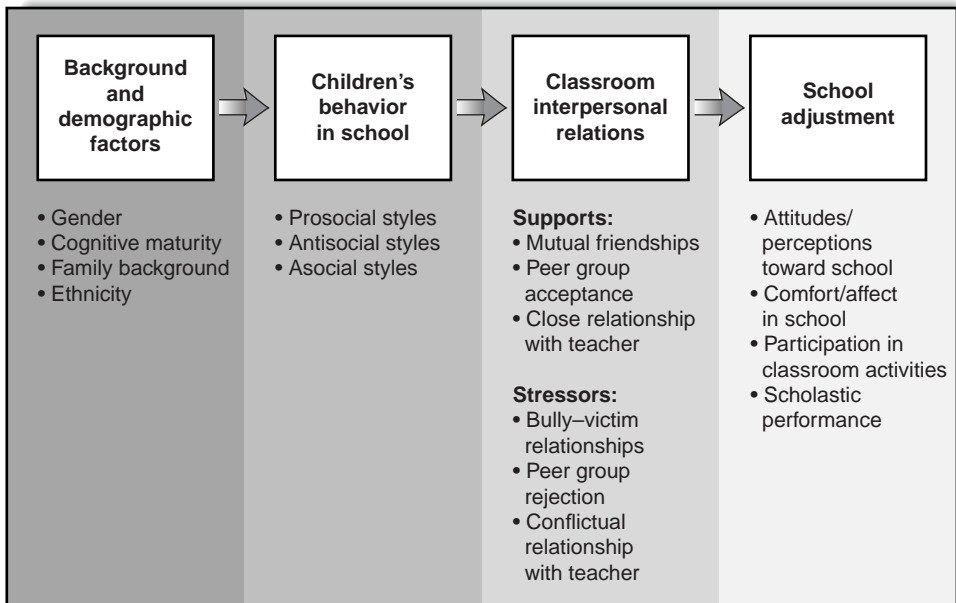


Figure 20.1 Interpersonal model of school adjustment.

### *Evidence examined in this review*

An overarching aim for this chapter is to evaluate evidence that reflects upon the three principal pathways designated within Figure 20.1. Each of these pathways corresponds to one or more premises about children's interpersonal lives in school and how they affect each other and multiple features of their school adjustment. First, we consider evidence bearing on the hypothesis that children's interaction patterns in the classroom influence the types of relationships they form with peers and teachers. Second, we evaluate the tenet that specific features of children's relationships with classmates or teachers facilitate or impede their school adjustment, depending upon the processes (e.g., affirmation, conflict) or instrumental/psychological properties (e.g., stress, support) that children are exposed to in these relationships. Third, we assess empirical support for the premise that the effects of children's interpersonal behaviors on school adjustment are mediated through (or moderated by) the relationships they form with classmates and teachers. Finally, we review evidence from experimental studies in which one or more of the targeted relational variables has been manipulated, and consider the implications of these findings for intervention and prevention programs.

## Children's Social Behaviors, Peer Relationships, and School Adjustment

Conceptually, a central premise within the proposed child-by-environment model is that children's adjustment is partly determined by the interface of children's interpersonal behaviors and the surrounding social/school environment (see Ladd, 1996). When applied to peer relations research, a corollary that follows from this model is that children's behavior in classrooms affects the nature of the relationships they develop with classmates and teachers.

### *Are children's behaviors linked with their relationships in the school context?*

Most of the child behaviors that have been examined as correlates or antecedents of classroom relationships can be grouped into three categories, termed *antisocial behaviors* (e.g., aggression), *prosocial behaviors* (e.g., cooperative interaction patterns), and *asocial behaviors*. Investigators have often worked from the premise that antisocial behaviors create high social costs for their interaction partners, and deprive peers of sought-after psychological benefits (e.g. reliable alliance, social support). In contrast, prosocial actions seldom create interpersonal costs and often benefit partners. Children prone to asocial behavior are likely to burden their partners by being unskillful and failing to maintain interactions.

In mapping the relational context of schools, researchers have distinguished between children's dyadic relationships (i.e., friendships, teacher-child relationships; Birch & Ladd, 1996) and group-level constructs such as peer acceptance (see Bukowski & Hoza, 1989). Unlike friendship, peer acceptance is typically defined as how much a child is liked versus disliked by members of his or her classroom peer group. Peer victimization refers to children who are frequently the recipients of peers' aggressive behaviors (see Kochenderfer & Ladd, 1996).

Because longitudinal investigations provide the strongest support for the proposition that children's behaviors affect their relationships, special attention is given to this form of research in the sections that follow. These sections are organized by relationships to consider how different forms of child behavior may be linked with each type of relationship.

*Peer acceptance.* The behavioral correlates of peer acceptance have received considerable research attention, and a common finding is that aggressive behaviors antecede peer-group rejection (e.g. Coie & Kupersmidt, 1983; Dodge, 1983; Ladd, Price, & Hart, 1988). Recent studies have revealed that some forms of aggression, such as instrumental aggression in boys, predict peer rejection better than others (Coie, Dodge, Terry, & Wright, 1991). Although more common among girls, relational forms of aggression (i.e., attempts to damage another's relationships; Crick, 1996), along with confrontive forms of aggression, predict peer rejection for both boys and girls. These findings support the inference that aggressive behaviors antecede children's acceptance by classmates (although, see Hymel, Wagner, & Butler, 1990), and suggest that there may be gender differences in how aggression is expressed.

In contrast, prosocial behaviors have been shown to antecede peer-group acceptance

(Coie & Kupersmidt, 1983, Dodge, 1983; Ladd et al., 1988). Coie and Kupersmidt (1983) found that boys who asked questions and make positive comments became better liked by peers, and Ladd et al. (1988) found that preschoolers who played cooperatively with peers gained in peer acceptance over a school year.

At present, evidence for the premise that asocial behavior leads to peer rejection appears age-dependent. During early childhood, investigators tend to find that withdrawn children are not rejected by peers (e.g., Ladd & Burgess, 1999). By middle childhood, however, it is more common for investigators to find that asocial behavior is linked with peer rejection, possibly because older classmates tend to judge such behavior as deviant (e.g., Rubin, LeMare, & Lollis, 1990). Other findings suggest that withdrawn children are prone to peer neglect (i.e., receive few liking or disliking nominations from peers) rather than peer rejection (e.g., Dodge, 1983), and early peer isolation has been associated with low peer acceptance in both early and later grade levels (Hymel, Rubin, Rowden, & LeMare, 1990).

In sum, substantial evidence corroborates the premise that children's interpersonal behaviors have a bearing on the status they achieve in peer groups. In general, findings support the inference that children's behaviors play an important role in shaping relationship formation, but may have less effect on peer's sentiments once such reputations are formed (see Hymel, Wagner, & Butler, 1990).

*Friendship.* As was the case for peer acceptance, evidence indicates that children's aggressive behavior is inversely related to friendship. Both confrontive and relational forms of aggression have been linked to problematic friendships in boys and girls (Grotperter & Crick, 1996), and aggressive children appear to have difficulty maintaining their friendships (Parker & Seal, 1996). In contrast, Gottman (1983) found that prosocial skills, such as maintaining connected discourse and managing conflicts adaptively, forecasted children's success at friendship formation. Similarly, Howes (1988) found that toddlers with cooperative play styles were more likely to maintain their friendships, and Berndt and Das (1987) reported that prosocial behavior predicted whether fourth-graders would maintain versus lose friendships over a school year. The relation between asocial behavior and friendship is less clear, although Ladd and Burgess (1999) found that withdrawn children did not differ significantly from either normative or aggressive counterparts in the number of mutual friendships they possessed from kindergarten through second grade. Such findings may be attributable to Rubin and his colleague's (Rubin et al., 1990) contention that asocial activity is normative at younger ages, and not seen as deviant by peers.

Thus, compared to research on peer-group acceptance, less is known about the links between child behaviors and friendship. However, existing evidence is generally consistent with hypotheses about the costs and benefits of aggressive versus prosocial behaviors on relationship formation and maintenance.

*Peer victimization.* Some investigators have described bully-victim interactions as a form of relationship because it often involves the same partners and persists over time (see Pierce & Cohen, 1985). Findings point to two distinct subtypes of victims – a passive or nonaggressive type, comprising the majority of victimized children, and a provocative or aggressive type (Olweus, 1994; Perry, Kusel, & Perry, 1988). Schwartz, Dodge, and Coie

(1993) found that, compared to a matched nonvictimized aggressive group, boys who became passive victims exhibited a submissive and incompetent interaction style and became progressively more withdrawn over time. In a study of third through seventh graders, Egan and Perry (1998) found that physical weakness, internalizing problems, and poor social skills all predicted later victimization, especially for children with low self-esteem.

Thus, early evidence supports the notion that children's aggressive and passive behavior, and deficiencies in their social skills, are associated with peer victimization. As of yet, however, longitudinal studies are rare, and the evidence that has accumulated on the linkage between child behavior and peer victimization is primarily of a cross-sectional, correlational nature.

*Teacher-child relationships.* Although teacher-child relationships are part of the social ecology of school environments, they have received less attention than children's relationships with classmates. Findings suggest that young children's behaviors in school may affect not only their ties with peers, but also with teachers.

Research on this relationship has been guided by attachment theory, either explicitly (e.g., Howes & Hamilton, 1992; Howes, Hamilton, & Matheson, 1994) or implicitly (e.g., Pianta & Steinberg, 1992). Greater attention has been focused on the correlates of teacher-child relationships than on its antecedents. Early findings (Pianta & Steinberg, 1992) indicated that disruptive child behavior and internalizing/anxious problems correlated negatively with the quality of teacher-child relationships. In a prospective longitudinal study, Birch and Ladd (1998) found that children's antisocial behavior in kindergarten was negatively related to teacher-child closeness and positively related to teacher-child conflict and dependency in first grade. Children's prosocial behaviors correlated positively with their concurrent teacher-child relationships, but were not uniquely predictive of later relationship quality.

In sum, although extant evidence reflects on a limited range of behaviors, relationship features, and developmental periods, it is consistent with the premise that the behaviors children bring to school affect the nature and quality of the relationships they form in this setting. With few exceptions, aggressive and antisocial behaviors have been linked with negative relationship properties, and prosocial behaviors have been linked with positive relationship features. These findings, and especially those for antisocial behaviors, appear to generalize across the types and features of relationships children form at school, including those they have with classmates and teachers. We now turn to the second of the premises embodied in the child by environment model, and consider whether there is evidence to support the contention that children's relationships in school affect their adjustment in this context.

*Are children's relationships in the school context associated with their adjustment in this setting?*

It has long been assumed that children's adjustment is affected by their relationships with key socializers (see Ladd, 1999), but investigators have only recently investigated this assumption in the school context. Thus far, research has been guided by the premise that

children's relationships with classmates and teachers immerse them in interactions (e.g., giving and receiving assistance) that confer specific "provisions" on the participants (e.g., a sense of worth, trust; or their opposites). Because relationships bring different processes to bear upon children and confer different provisions, they vary in adaptive significance for school-related demands (Furman & Robbins, 1985; Ladd, Kochenderfer, & Coleman, 1997). In the next three sections, we consider evidence pertaining to the adaptive value of classroom peer acceptance, friendships, and teacher-child relationships.

*Peer acceptance.* A growing corpus of findings links peer acceptance with indicators of later school adjustment. In a critical analysis of this literature, Parker and Asher (1987) found that low peer acceptance was a significant correlate of later school adjustment. Recently, investigators have begun to test hypotheses about the role of peer acceptance on emerging forms of school maladjustment. Early peer rejection – at school entry – has been shown to predict problems such as negative school attitudes, school avoidance, and underachievement during the first year of schooling (Ladd, 1990). Later, in the elementary years, peer acceptance has been linked with loneliness (Parker & Asher, 1993), peer interaction difficulties, lower emotional well-being, and academic deficits (Ladd, et al., 1997; Vandell & Hembree 1994). In other studies, researchers have attempted to distinguish the contributions of peer acceptance from those of other relationships. Ladd and colleagues (Ladd et al., 1997; Ladd, Birch, & Buhs, 1999) found that, even after controlling for other forms of peer and teacher-child relationships, peer rejection predicted children's participation in the classroom which, in turn, was linked to later achievement. In a similar study, Buhs and Ladd (2001) found that children's peer acceptance at school entry predicted changes in classroom participation which, in turn, predicted later academic and emotional adjustment. In general, these results support the premise that peer acceptance promotes social inclusion which, in turn, yields provisions (e.g., sense of belongingness) that enhance interpersonal and scholastic adjustment.

*Friendship.* In research on classroom friendships, investigators have often measured children's participation in a close friendship, the number of mutual friends they have in their classrooms, the duration of these relationships, and features that reflect the quality of a friendship (see Ladd, Kochenderfer, & Coleman, 1996). There is growing evidence linking one or more of these facets of friendship to children's school adjustment.

As children enter school, those who have prior friendships and tend to develop new ones are more likely to form favorable school perceptions and do better academically than peers with fewer friends (Ladd, 1990). The processes that typify friends' interactions have also been linked to children's school adjustment. Young children, especially boys who report conflict within their friendships, have been shown to have adjustment difficulties, including lower levels of classroom engagement and participation (Ladd et al., 1996). Ladd et al. also found that when children saw their friendships as offering high levels of validation (support) and aid (assistance) they tended to perceive classrooms as supportive interpersonal environments. Conversely, Parker and Asher (1993) found that third- through fifth-grade children whose friendships lacked supportive features tended to be lonely in school.

Although less well researched, evidence suggests that friendships may not always contribute positively to school adjustment. Berndt, Hawkins, and Jiao (1999), for example, found

that fighting and disruptiveness tended to increase if adolescents had stable friendships with peers who exhibited the same problems. While far from being conclusive or exhaustive, these studies suggest that, in addition to peer-group acceptance, the features of children's friendships (e.g., participation, interactional processes, stability, etc.) are potential antecedents of school adjustment across a wide range of ages.

*Teacher-child relationships.* Research on the links between teacher-child relationships and children's school adjustment has been limited in scope and depth, and constructed largely from an attachment or relationship features perspective. Pianta and Steinberg (1992) found that, among kindergarten children who were at risk for retention, those with positive teacher-child relationships were more likely to advance to first grade and those with conflictual relationships were more often retained. In a longitudinal study, Birch and Ladd (1998) found that kindergartners with conflictual or dependent teacher-child relationships were more likely to develop later adjustment problems, such as delayed academic performance, lower classroom participation, and negative school attitudes. Ladd et al. (1999) also found that qualities of the teacher-child relationship predicted later classroom participation and, indirectly, academic achievement. While these findings have yet to be replicated with older samples and varying demographic groups, available evidence implicates the teacher-child relationship as a potential antecedent of children's school adjustment.

*Victimization.* A link between peer victimization and school maladjustment has been found in a number of investigations. As illustrations, Boivin, Hymel, and Bukowski (1995) found that grade-schoolers who experienced gains in victimization over a year tended to report higher levels of loneliness. Similarly, at school entrance, higher levels of peer victimization predicted increases in loneliness and school avoidance (Kochenderfer & Ladd, 1996; Ladd et al., 1997), and these difficulties were pronounced for children who were chronically maltreated. These longitudinal findings are corroborated by cross-sectional evidence gathered with diverse age groups around the world. Victims, for example, are more likely than nonvictims to report negative feelings and attitudes toward school and classroom tasks (Boivin & Hymel, 1997; Boulton & Underwood, 1992). Although further investigation is needed, especially across age groups and gender, the bulk of extant evidence conforms to the hypothesis that victimization is a determinant of school-related difficulties.

*Do relationships in school mediate the association between children's behavior and school adjustment?*

In recent years, researchers have begun to evaluate more complex models than the bivariate ones described above. This progression in thinking is illustrated in Figure 20.1 where classroom behaviors are seen as affecting classroom relationships which, in turn, yield affordances or constraints that impact children's school adjustment. Moreover, reliance on multivariate statistical tools, such as structural equation modeling (SEM), has allowed researchers to conduct more comprehensive tests of alternative paths of influence, including hypothesized direct and/or mediated effects.



Boivin and Hymel (1997) were among the first to examine mediated linkages from children's behavior through peer relationships to adjustment. In a cross-sectional study with 8 to 10 year olds, these investigators found that children's withdrawn and aggressive behavior correlated positively with peer rejection and peer victimization which, in turn, correlated negatively with school loneliness and social dissatisfaction. Ladd et al. (1999) examined a similar set of premises longitudinally with kindergartners and found that even after controlling for demographics/entry factors, there were significant paths from kindergartners' classroom behaviors to both positive and negative features of their teacher and peer relationships, and from these relationships to children's classroom participation and achievement. Also obtained were significant indirect paths that were consistent with the hypothesis that the effects of children's behaviors on their scholastic performance were transmitted through features of their classroom relationships.

Data from these investigations imply that there is a need to broaden the scope of research on the interpersonal antecedents of school adjustment to include multiple aspects of the classroom social environment. Also, because there is growing support for the proposition that children's interpersonal lives in the classroom contribute to their school adjustment, it may be prudent for researchers to experiment with methods that might improve children's interpersonal skills and relationships in this setting. In the sections that follow, evidence relevant to this objective is considered.

### **Intervention and Prevention Research: Is it Possible to Improve Children's Social Behavior and Relationships in School?**

In view of the foregoing findings, it might be argued that children who are not adjusting to school may benefit from learning social skills, becoming accepted by classmates, developing high-quality friendships, and forming close ties with their teachers. Yet, research aimed at improving children's school adjustment is rare because investigators have tended to focus primarily on changing children's behavior (e.g., social skills training) without considering how skill acquisition might affect their success in school. In the balance of this chapter, we consider how experimental interventions could permit tests of hypotheses about the linkages between social skills, classroom relationships, and school adjustment, and whether existing evidence suggests that such manipulations are effective for these purposes.

#### *Interventions to promote social skills or reduce antisocial behaviors*

Efforts to promote social competence and improve children's relationships with classmates have a long history. Investigators first used simple procedures such as presenting children with models of prosocial behaviors or arranging for them to receive contingent reinforcement for naturally occurring prosocial behaviors during the school day (see Asher, Renshaw, & Hymel, 1982). As theories implicating social cognition as the basis for competent behavior emerged and received empirical support, investigators began to create interventions to

foster social knowledge and problem-solving abilities (e.g., Gesten et al., 1982; Spivak & Shure, 1974). The latest genesis of interventions is more complex and includes components based on social cognitive, motivational, emotional, behavioral, and external reinforcement principles.

Interventions based on one or more of these principles have been used to promote social skills and to reduce antisocial behaviors (Gresham, 1985; Ladd & Mize, 1983; Lochman, White, & Wayland, 1991). Many of the programs built upon social cognitive principles are based on the premise that incompetent social behavior is the result of distortions or deficits in social cognitive processes and knowledge (e.g., see Crick & Dodge, 1994; Ladd & Crick, 1989). Evidence that such programs are effective has begun to accrue. An anger-coping program created by Lochman and colleagues (Lochman, Burch, Curry, & Lampron, 1984; Lochman & Lenhart, 1993) reduced hostile behavior, especially in aggressive males between the ages of 9 and 22, by teaching perspective taking, anger recognition, and social problem-solving skills. Similarly, attribution retraining programs (see Hudley & Graham, 1993) appear to reduce boys' hostile attributions about peers' intentions and reduce anti-social behaviors.

Other successful interventions have been based on the hypothesis that, in addition to changing children's thinking, it is necessary to help children translate interpersonal knowledge into skilled behavior within the context of peer interactions. Coaching programs, as developed within cognitive-social learning theory (see Ladd & Mize, 1983), use instruction (e.g., verbal discussions, modeling), rehearsal, and performance feedback to enhance children's understanding of social principles as well as to facilitate skill acquisition and performance. Evaluations show coaching to be relatively effective at promoting many types of skills with children of differing ages (see Asher, Parker, & Walker, 1996).

### *Interventions to promote peer relationships*

Another aim of experimental interventions has been to improve children's peer relationships (e.g., peer acceptance), and to determine whether changes in relationships stem from skills that children learn during the intervention. In a survey of skill-training interventions, Asher et al. (1996) found that 10 of 14 programs had produced gains in peer acceptance at post-test and/or follow-up. In several studies, the interventions yielded gains in both skill acquisition and peer acceptance (e.g., Bierman, 1986; Bierman, Miller, & Stabb, 1987; Csapo, 1983; Gresham & Nagle, 1980; Ladd, 1981). However, mixed effects have also been reported. In some cases, investigators have found improvements in interpersonal skills but not peer acceptance whereas, in other cases, gains in peer acceptance have been documented in the absence of skill enhancement (see Coie & Koeppel, 1990). These findings underscore the need to examine possible moderators of skill acquisition, design artifacts that might account for improvements in peer acceptance, and processes that affect relationship change.

In contrast, few interventions have been developed to help children form or improve friendships. Typically, children have been taught "general" play or conversational skills as a means of improving peer acceptance. These skills may be relevant to friendship, but success at friendship formation and maintenance may require other, specialized skills such as reciprocity, support, and other ways of being responsive toward friends (see Asher et al.,

1996). Although a few investigators have included “friendship-making skills” in the training curriculum (Gresham & Nagle, 1980; Vaughn & Lancelotta, 1990), friendship has rarely been assessed as an intervention criterion. Exceptions include Oden and Asher (1977) and Gresham and Nagle (1980), who included a best friendship nomination measure in their assessments, but found no evidence of change. Gresham and Nagle (1980), however, did find that children who received general skills training improved on an unlimited friendship nomination measure, suggesting that these children became better acquaintances with classmates (Coie & Koeppel, 1990).

Perhaps the closest approximation of a friendship intervention was conducted by Murphy and Schneider (1994) with fifth graders. Participants chose two same-sex peers with whom “they would like to become better friends” and were coached by adults to communicate liking in their interactions with these peers. Compared to wait-listed controls, the investigators found that trained children received higher liking scores from their “friends” and, in turn, “friends” reported higher liking scores for the trained children as compared to controls. Unfortunately, several limitations interfere with interpretation of the results. For example, children were selected based on peer acceptance rather than friendship criteria, and their prior relationships with training partners was not assessed or controlled. Thus, it remains unclear whether this procedure enhanced the formation of new friendships, improved the quality of existing friendships, or increased level of liking felt between two acquaintances. Clearly, there is a need for intervention research in which friendship skills are taught and friendship is used as a criterion for both selection and improvement.

Interventions aimed at reducing peer victimization suffer from many of the same limitations as programs designed to promote friendship. We know of no interventions for which children have been selected based on assessments of bullying or exposure to peer victimization. Although skills such as coping with teasing have been included in some interventions (e.g., Pepler, King, & Byrd, 1991; Schneider, 1991), researchers seldom specified or evaluated this component of the training. Programs developed to reduce aggression may curtail bullying, but these interventions have usually targeted reactive rather than the proactive forms of aggression that are often associated with bullying (Atlas & Pepler, 1998; Coie, Underwood, & Lochman, 1991; Olweus, 1997). Larger, environmental interventions, such as those conducted by Olweus (1994, 1997), appear to reduce bullying at a school-wide level, but it is not clear that such programs empower victims or enable them to cope with the effects of peer abuse.

To summarize, the results of experimental interventions provide qualified support for the hypothesis that children can learn skills that improve peer relationships or curtail relationship difficulties. Particularly promising are results indicating that interventions can effect changes in children’s interpersonal skills as well as in their acceptance by classroom peers. Far less progress is evident, however, in the development of programs that can assist children in other domains, such as friendship or bully–victim relations.

### *Interventions to enhance school adjustment*

Few, if any, intervention programs have been formulated with the explicit aim of enhancing children’s school adjustment. However, investigators who have included school adjust-

ment measures in their assessments sometimes find that interpersonal interventions facilitate children's school performance. Lochman (1985) found that aggressive boys who participated in an anger control program became more task-focused, and Sarason and Sarason (1981) reported that social problem-solving and self-presentation training increased children's school attendance and decreased disciplinary problems. However, whether improvements in school adjustment were attributable to gains in social skills, better classroom relationships, or both, remains unclear. Investigations are needed to determine whether programs designed to enhance social skills and relationships help children adapt to school, and what types of adjustment difficulties respond to this form of treatment. In subsequent sections, we consider whether principles derived from the existing interventions might be adapted for these purposes.

*Participant selection.* Those who have developed interventions recognize that children experience peer-relationship difficulties for a variety of reasons. Thus, broad selection criteria (e.g., low peer acceptance) tend to identify rather heterogeneous types of children, not all of whom are likely to benefit from a particular type of training. To reduce this heterogeneity, some investigators have narrowed their selection criteria to include only those children who have both relational problems (e.g., low peer acceptance) and related skill deficiencies (e.g., Bierman & Furman, 1984; Bierman et al., 1987; Ladd, 1981; Mize & Ladd, 1990). Others have selected children who manifest specific behavioral problems (e.g., aggressive, withdrawn) and then train skills that are often deficient in children who have these behavioral styles. In general, results show that targeting specific skill deficits enhances the efficacy of interpersonal interventions. For example, Bienert and Schneider (1995) gave aggressive and withdrawn sixth graders deficit-specific training (e.g., aggressive children were trained to reduce hostile acts) or crossover training (e.g., aggressive children were trained in skills best suited for withdrawn children). Results showed that, although crossover training was beneficial, larger gains were achieved when there was isomorphism between children's deficits and the trained skills.

To enhance school adjustment, researchers could intervene with children who manifest interpersonal deficits as well as school adjustment problems. If some children underachieve because they alienate potential collaborators (e.g., classmates and teachers), a skill-based intervention might yield interpersonal gains (better skills and relationships) that mediate improvements in achievement (e.g., through enhanced peer collaboration).

*Adapting training content and assessment.* To achieve the aim of enhancing classroom relationships as a means of promoting school adjustment, it may be possible to modify existing intervention curricula to include training specific to forming positive relationships with classmates and teachers and, thus, test the premise that better relationships enhance school adjustment. Alternatively, researchers could augment curricula by including other interpersonal skills that are directly related to facets of children's school adjustment (e.g., peer collaboration within learning activities).

Other pathways of influence warrant examination as well, including indirect and mediated effects of skill learning on school adjustment. For example, children who acquire better social problem-solving skills may generalize these skills to academic tasks, and improved skills for peer interaction may foster school adjustment through enhanced self-

esteem or generalized self-efficacy beliefs. Also, skills that may be more directly related to children's school adjustment may produce indirect effects through enhanced social relationships. Academic tutoring has been shown to increase peer acceptance (Coie & Krehbiel, 1984), and the reduction of disruptive behavior may generate greater positive regard from peers and teachers. Thus, there may be more to learn about the consequences of helping children develop more adaptive classroom relationships.

*Program length.* A common assumption is that intervention effects are magnified by increasing the number of training sessions (Csapo, 1983; Lochman, 1985). However, pragmatic concerns often dictate against this, and little is known about whether simple repetition of the training curriculum/procedures versus extensions/elaborations of a specialized nature (e.g., using later sessions to promote skill generalization) maximize training outcomes.

An alternative is to train children until they reach a performance standard (Csapo, 1983), which has the advantage of ensuring skill mastery. However, this may be more difficult when relationships are designated as intervention criteria. Unlike changes in skilled behavior, which can be observed, indicators of relationship development are less obvious and, therefore, difficult to define and operationalize. Also, repeated relationship assessments are likely to be time consuming, invasive, and subject to reactivity biases. When interventions include skills and relationships as criteria, investigators face the added burden of determining how interventions should proceed when children's skills meet performance standards but features of their relationships have not. Despite these problems, the benefits of mastery standards may outweigh the limitations. Training to criterion serves as a validation check on the experimental manipulation, and evidence that children's relationships have reached a standard is a precondition for establishing that relationship changes are responsible for gains in school adjustment.

*Intervention evaluation.* Linking intervention processes with outcome criteria has become an important part of program evaluation in recent years. In addition to examining change on outcome criteria, investigators have been encouraged to assess the change-producing components of interventions (Hops, 1983; Kendall & Braswell, 1985). As an illustration, Bierman and Furman (1984) conducted an intervention with fifth and sixth graders but failed to detect links between trained conversational skills and children's peer acceptance. Further analyses of individual sessions (Bierman, 1986) revealed that children's conversation skills began to correlate with positive peer responses between the sixth and tenth sessions, and these improvements correlated with gains in peer acceptance at follow-up. Careful analyses of changes in skills and relationships will be needed to discern the process by which social competence programs may affect school adjustment.

A number of child characteristics appear to moderate the effectiveness of intervention programs, including initial levels of problem behaviors (Lochman, Lampron, Burch, & Curry, 1985), behavioral style (Schneider, 1992), and children's attributions about social successes and failures (Kendall et al., 1991). Similarly, contextual attributes may moderate whether improvements in interpersonal skills and social relationships lead to better school adjustment. Factors such as teacher beliefs, classroom climate, and academic tracking, or family values, may influence whether improvements in classroom skills or relationships translate into higher levels of school participation and achievement.

In general, it can be argued that evaluations of interventions intended to improve school adjustment should include evidence that children have mastered targeted interpersonal skills, significantly improved their relationships with peers and/or teachers, and become better adapted to the school environment. Ideally, such evidence would be gathered with multisource/multimethod assessments (e.g., self, peer, teacher, observational indices) to control problems with shared method variance and establish convergence on observed treatment gains.

*Developmental concerns.* There is no clear consensus about when it is best to intervene in children's lives. On the one hand, researchers have shown that problematic peer relationships can influence school adjustment as early as kindergarten (Ladd, 1990; Ladd et al., 1999). Also, it has been argued that younger children may be more willing to participate in interventions, less concerned about why they have been selected, and more facile at changing behavior patterns (Lochman, 1990). In addition, younger children may be less likely to belong to peer groups that support deviance or attempt to subvert behavioral or reputational change (Forehand & Long, 1991).

On the other hand, skills learned at younger ages may not be well suited for the challenges children face at later ages (Bierman & Montimy, 1993), and younger children may not have the competence to profit from certain types of intervention procedures (Weisz, 1997). Furthermore, it may be beneficial to conduct interventions after children have shown a stable pattern of poor school adjustment. Most likely, even though such procedures may be time consuming and costly, intense treatment at early ages followed by continuous "booster treatments" may be the best way to help children at risk for adjustment difficulties (see Lochman, 1990).

## Conclusions and Future Directions

### *Toward an integrated model of the effects of peer relationships on school adjustment*

The evidence reviewed in this chapter was largely consistent with our initial premises about the links between children's behavior, classroom relationships, and school adjustment. The proposition that children's behavior plays a causal role in the formation and maintenance of multiple relationships within school broadens our conception of classrooms as complex social ecologies within which children construct a multifaceted relational web. As children navigate the classroom environment, it appears likely that their interactions simultaneously affect multiple types of relationships, including peer relations at the dyadic and group levels, and teacher-child relationships.

It also appears that children's classroom relationships have different features that may make different contributions to school adjustment. Teacher-child relationships tend to be "vertical" in the sense that they afford children less power or control over their interaction partner, whereas peer friendships tend to be more "horizontal" or equitable in this respect. Consistent with this implication are findings indicating that children's relationships with

classmates (e.g., friendship, bully–victim, peer-group relations) are differentially linked with various school adjustment criteria (see Ladd et al., 1997, 1999). There is growing evidence to suggest that peer relationships are more directly associated with children’s motivational beliefs or emotional adjustment (Boivin & Hymel, 1997; Buhs & Ladd, 2001), whereas teacher–child relationships are more closely tied to achievement (Ladd et al., 1999). In the peer domain, peer-group acceptance more than friendships has emerged as a stronger predictor of children’s participation in classroom activities (see Ladd et al., 1999), an aspect of school adaptation that requires involvement with others, and is highly predictive of scholastic achievement.

These findings also illustrate the importance of longitudinal designs and the inclusion of multiple behavioral, relational, and adjustment constructs within the same investigation. In addition to establishing the temporal precedence of predictors and criteria, such designs allow investigators to tease apart the independent (or overlapping) contributions of differing social behaviors to relationship development, and the potential contributions of differing relationships to various facets of children’s school adjustment.

Unfortunately, we still know very little about possible gender differences in the links between children’s behavior, relationships, and adjustment in the school context. Also, the temporal and causal linkages implied in the proposed model are in need of further elaboration. It is conceivable that children’s relationships shape the nature of their interpersonal behaviors, rather than the converse (see Parker & Seal, 1996), and school adjustment problems may alter children’s classroom relationships.

*Because children’s interpersonal skills and relationships are dynamic entities, their associations with school adjustment may change with development*

Evidence from correlational and experimental studies supports the premises examined in this review, but much of it comes from investigations with limited temporal purviews, such as the transition to grade school or middle school. Thus, most of these findings illuminate processes that occur in specific developmental periods, but fail to indicate how these linkages may change over the course of children’s development. Consider the possibility that children’s social needs, skills, and relationships change in form and sophistication as they grow older. To illustrate, the skills that are required to make and keep a friend appear to become more complex and subtle as children grow older (e.g., see Parker & Seal, 1996). Likewise, relationship processes and the provisions they yield are likely to change as children mature, potentially altering their adaptive value. Thus, relationships built around earlier needs and challenges may not supply the provisions children need to adapt to new circumstances. As conditions change, it may be necessary for children to alter their social lives by cultivating new skills and relationships that are more closely associated with environmental demands.

At present, there is a need for both theory and evidence to guide our understanding of developmental progressions in the linkages between children’s social skills, peer and teacher–child relationships, and their school adjustment. Toward these ends, child-by-environment models (see Coie et al., 1993) could be elaborated to include descriptive information about the nature of children’s interpersonal skills, relationships, and classroom environ-

ments (e.g., normative patterns) at different ages, and to generate predictions about how these constructs are interrelated over the course of development.

The extant database could be expanded by gathering correlational and experimental evidence. For example, correlational studies could be conducted to determine whether shifts in environmental demands are accompanied by changes in children's interpersonal skills and relationships, or vice versa. In addition to helping children escape from debilitating forms of relationship (e.g., peer rejection, victimization), experimental studies could be used to ascertain whether children's skills and relationships can be altered so as to provide adaptive resources for age-related environmental tasks, and whether children can be encouraged to develop enduring, multipurpose relationships that are likely to meet their needs over changing environments or developmental periods.

### *Developing a tripartite model of social competence programs*

Until recently, the value of intervention programs has often been justified in terms of potential long-term benefits that may accrue from improved social skills or relationships in childhood, including freedom from later-life dysfunctions such as adult criminality, school failure, and depression (see Parker & Asher, 1987; Kupersmidt, Coie, & Dodge, 1990). This emphasis may have discouraged investigators from gathering evidence on more immediate indicators of children's well-being, including children's perceptions, emotions, and performance in the school environment. Researchers may want to shift their assessment paradigms so as to learn more about their effects on early emerging dysfunction or evolving trajectories as well as distal indicators of adjustment.

The premises and corroborating evidence reviewed in this chapter lend support to the goal of developing tripartite intervention models – that is, programs that enable children to advance in three areas: social competencies (e.g., behavioral skills, social cognitive skills), social relationships (e.g., peer acceptance, friendship, teacher–child relationships), and school adjustment (e.g., academic achievement, loneliness, participation). Interventions that incorporate these objectives may not only promote short-term benefits, such as helping children adapt to the immediate demands of school, but also prevent current difficulties from escalating into reified or cumulative patterns of maladjustment.

Intervention research also advances our understanding of the process by which children's interpersonal skills, social relationships, and school adjustment are interrelated. Investigators often cite findings from intervention studies as evidence that changes in children's interpersonal behaviors influence the way peers regard them. Yet, little is known about how changes in children's behavioral competencies are perceived by peers, or how peers' conceptions of children's social reputations are altered (see Hymel et al., 1990). Much is known about how improvements in behavior are linked to peer acceptance, but the influence of behavioral changes on other relationships, such as friendships and victimization, have not been examined. As larger, integrated models of the interface between social skills, relationships, and adjustment are created, interventions will be useful for examining the process by which skills and relationships affect adjustment. As investigators test more complex, integrated models, it may be possible to design more effective interventions and add to our knowledge about the interface between children's interpersonal and academic worlds.



The task of determining whether existing intervention models are adequate for facilitating children's social behaviors and relationships remains unfinished. Undeniably, advances have been made in our understanding of how to help children learn specific social skills. These advances include recognizing the importance of direct instruction, identification of specific deficits/difficulties, promotion of skills in multiple domains, assessment of the processes underlying behavior and relationship change, and explication of the moderators and mediators of skill acquisition. However, despite improvements in intervention design, curriculum, and evaluation, the current evidence lacks both breadth and depth. This is, in part, reflected in the fact that investigators have limited the focus of their interventions almost entirely to promoting peer acceptance, failed to examine many factors that may influence the effectiveness of interventions (e.g., participants' age, motivation, and gender), and conducted very little research on the utility of particular intervention components (e.g., providing feedback, including nontarget peers).

Clearly, more research is needed to evaluate and refine the effectiveness of interventions that are designed to aid children with peer relationship difficulties. The trend, however, has been to incorporate social competence training programs into larger efforts to ameliorate the difficulties of children who are at risk for psychopathology (e.g., externalizing problems; e.g., Conduct Problems Prevention Group, 1999; Dishion, Andrews, Kavanagh, & Soberman, 1996). These comprehensive programs may be well suited to helping children overcome diverse environmental constraints that may cause early psychopathology. However, it is important that researchers continue to develop a technology that is capable of improving children's interpersonal skills and classroom relationships, and utilize these experimental manipulations as a means of understanding how children's skills and relationships affect their adjustment in major socialization contexts such as school.

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