

ISSUES IN THE ASSESSMENT AND TREATMENT OF SOCIALLY REJECTED CHILDREN

Gina Krehbiel and Richard Milich

ABSTRACT

Issues in the assessment and treatment of disordered peer relationships were reviewed. Special attention was directed toward the use of peer nomination procedures to identify the social status subgroups of isolated-withdrawn and rejected youngsters. Ethical issues associated with these assessment procedures were discussed, and alternatives to the peer nomination methodology were critically reviewed. It was noted that the two groups of isolated-withdrawn and peer rejected children may require different treatment approaches. Social withdrawal appears to involve primarily a social skills performance deficit whereas social rejection involves both behavioral excesses and skill deficits. Two intervention studies were reviewed demonstrating that a skill-deficit approach to the treatment of socially

Advances in Behavioral Assessment of Children and Families, Vol. 2, pgs. 249-270.
Editor: Ronald J. Prinz
Copyright © 1986 by JAI Press Inc.
All rights of reproduction in any form reserved.
ISBN: 0-89232-481-3

rejected youngsters may be of limited value. Instead, attention should be directed toward the behavioral excesses exhibited by these children.

INTRODUCTION

Within the last decade there has been a convergence of research interest in the area of social skills assessment and treatment of children with poor peer relationships. One line of research has attempted to identify behavioral correlates that account for disordered peer interactions, whereas other investigations have centered on developing treatment programs to enhance social adjustment. The initial appeal of these treatment regimes has been widespread as is evident in the plethora of social skills programs that are currently being marketed.

Although the initial treatment studies have been encouraging, a close scrutiny of the social skills assessment and training literature indicates inconsistent results that are difficult to interpret. The mixed findings may be attributable to several factors, the most significant of which are the methods of assessment and selection of subjects for participation in the training programs. Many of the interventions were designed and field-tested with socially isolated children, but the methods have been indiscriminately applied to groups of peer rejected youngsters.

In the training literature, peer rating scores are the most frequently employed measures of children's social status. By this method, children with low rating scores were selected for training programs. A single low rating score, however, does not differentiate between actively rejected and isolated children. As a result, social skill interventions were implemented with heterogeneous samples of children rejected by the group and children isolated from the group, making a clear interpretation of the treatment efficacy difficult (Wanlass & Prinz, 1982). The confounding of subject assessment is critical because the peer relationship problems experienced by these two groups of children as well as their long-term outcomes are known to be quite different.

A related source of subject misidentification is the common assumption that children with poor social adjustment are all deficient in the same skills targeted for training, i.e., that the subjects are a homogeneous group of children who are unpopular for the same reasons. This assumption seems particularly faulty in light of recent data from two intervention studies suggesting that variables other than level of social skill may mediate peer acceptance (Coie & Krehbiel, 1984; Pelham, Schnedler, Miller, Ronnei, Paluchowski, Budrow, Marks, Nilsson, & Bender, in press).

The purpose of this chapter is to discuss the assessment of peer relationships, elucidate the differences between isolated-withdrawn and rejected youngsters, and to present implications for differential treatment approaches. Specifically, it will be argued that social withdrawal may involve primarily a social skills perfor-

mance deficit whereas social rejection may tend to involve both behavioral excesses and skill deficits. The failure to recognize these and other differences may account for many of the disappointing findings in the skills-oriented treatment literature.

ISSUES IN ASSESSMENT

Peer Sociometric Methods

The evidence linking disordered peer relations and antisocial behavior in childhood with subsequent forms of maladjustment (for a review see Hartup, 1983) prompted the extensive development of two methods of assessing peer social status: sociometric questionnaires and observations. Sociometric questionnaires are procedures for measuring the personal appeal of individual members of a group, and they include a variety of techniques. The *positive nomination technique* (Moreno, 1934) requires children to nominate the names of other classmates who match specified positive interpersonal criteria. In studies using these techniques, children are asked to nominate those classmates they "like most." Each child's social status or popularity score is the number of positive nominations he or she receives. McCandless and Marshall (1957) developed a picture sociometric nomination technique for use with younger children in which each child is presented with a display of photographs of peers and is asked to point to and name peers in response to questions such as "with whom do you most like to play?" Estimates of the test-retest reliability of positive nominations by elementary school-aged children ranged from $r = .83$ to $.96$ after one week (Horowitz, 1962), to approximately $.74$ after three months (Bonney, 1943), from $.53$ to $.56$ after one year, and from $.34$ to $.42$ after three years (Roff, Sells, & Golden, 1972). When the picture sociometric was used with pre-readers, the test-retest reliability of positive nominations was enhanced (Hartup, Glazer, & Charlesworth, 1967; Moore & Updegraff, 1964).

Some investigators seek *negative nominations* of those who are "least liked" in addition to positive nominations. In this case each child's social status or rejection score is based on the number of negative nominations ("like least") received. Roff et al. (1972) noted that the test-retest reliability is higher for positive nominations ($r = .53$ to $.58$ after one year) than for negative nominations ($r = .44$ to $.46$ after one year). Coie and Dodge (1983) found that the stability of negative and positive nominations is higher for large samples that include cross-sex choices.

A third sociometric procedure is the *roster rating method* in which all children rate all classmates on a five-point scale which asks a variant of the question "How much do you like each person?" (Oden & Asher, 1977). In this case a child's sociometric rating is the standardized average of the ratings he or she

receives from the peers. This technique is considered to offer a general index of overall acceptability or likability (as opposed to number of friendships) and is thought to be more sensitive to changes in status than the scores which result from peer nominations (Asher & Hymel, 1981; Coie & Krehbiel, 1984). Additional advantages include the fact that each child is rated by all classmates, thereby providing a comprehensive index of each child's acceptance by every other classmate. Because the scale has positive and negative poles, children are not required to choose peers according to negative criteria. The procedure also reduces the possibility that a child is not selected because he or she was forgotten. The roster rating method has been found to correlate with positive nomination measures ($r = .63$ according to Hymel & Asher, 1977), and the test-retest reliability of the rating procedure is higher than that of the positive nomination method (.82 and .69 over six weeks according to Oden & Asher, 1977, and Thompson & Powell, 1951, respectively).

The three peer sociometric methods provide different indices of a child's social status. Positive and negative nominations children received were assumed in earlier studies to represent opposite poles of a single "acceptance continuum" with investigators choosing to measure only the positive pole (Hartup, 1983). However, positive and negative nominations are only moderately and inversely correlated with estimates ranging from $r = -.04$ to $-.50$ (Gottman, 1977; Hartup et al., 1967; Hymel & Asher, 1977; Moore & Updegraff, 1964; Roff et al., 1972). The low correlations suggest that positive and negative nominations are two relatively orthogonal dimensions of peer regard. The number of positive nominations only differentiates between children who are more versus less accepted. The use of positive nomination or rating scores alone ignores the distinction between neglected and rejected children since both groups receive few positive nominations or low ratings.

Although current procedures for social status assessment were devised in the 1930s, classification systems for describing peer relationships have emerged only within the last decade. The classification approaches of Gottman (1977), Peery (1979), Coie, Dodge, and Coppotelli (1982), and Newcomb and Bukowski (1983) have grouped children according to their scores on both popularity and rejection dimensions derived from peer nominations.

Perhaps the first investigator to identify children's social status groups was Gottman (1977). Using a cluster analysis of four observation categories plus scores of social acceptance and rejection dimensions, Gottman (1977) identified five groups of children (see also, Hartup, 1983): stars (high on peer acceptance and low on rejection), rejectees (high on rejection and low on acceptance), teacher negative (high on teacher negative but also high on peer acceptance), tuned-out (low on both acceptance and rejection), and mixers (high on both acceptance and rejection). Gottman's classification is especially interesting as it is the only system based upon multivariate statistical procedures.

Peery (1979), like Gottman, based his classification schema on peer accep-

tance and rejection, but he combines them to create two new dimensions. *Social impact* was defined by the sum of positive and negative nominations, while *social preference* equalled the number of positive nominations minus the number of negative nominations. These two new dimensions were used to generate four social status groups: populars (high impact, highly preferred), amiables (low impact, highly preferred), isolates (low impact, nonpreferred), and rejects (high impact, nonpreferred).

Classification procedures that have emerged subsequent to Peery's (1979) have primarily consisted of variations on the use of social impact and social preference dimensions. For example, Coie et al. (1982) used standardized scores on these two dimensions to create five social status groups: popular, rejected, neglected, controversial, and average. By setting relatively high criterion scores, Coie et al. successfully classified 57% of their 848 children into one of the five groups. In contrast, Newcomb and Bukowski (1983) applied probability theory to raw scores from peer acceptance and rejection nominations to classify children into the same 5 groups as employed by Coie et al., successfully classifying 100% of the children.

These classification procedures have been proposed based on either multivariate statistical methods or extreme group cutoff scores. There are subtle distinctions among these approaches, including qualitative differences among identified groups, differing proportions of children classified by each, and issues of reliability, stability, and validity (see Newcomb & Bukowski, 1983; Bukowski & Newcomb, 1984; Putallaz and Gottman, 1983). However, it may be more beneficial to focus on the commonalities of these approaches, since there appears to be considerable agreement in how peer relationships and the social status environment are conceptualized. Five basic social status groups emerged regardless of how the children are classified: (a) the child who receives many positive nominations and few if any negative nominations; (b) the child who receives few if any positive and many negative nominations; (c) the child who receives significant numbers of positive and negative nominations; (d) the child who receives few if any nominations, positive or negative; and (e) the child who receives nominations similar in number to the mean number of positive and negative nominations for the entire group (Coie et al., 1982). The use of these nomination-based classifications promotes the differentiation of children whose peer relations and problems differ significantly (Dodge, Coie, & Brakke, 1982).

Ethical Considerations

Although the value of obtaining peer sociometric data is now generally accepted (Asher, 1983), the use of these assessment procedures has caused considerable concern among school personnel. Concerns have centered around the potential harm that may result from asking peers to evaluate each other, and thereby sensitize children to think about whom they do not like or encourage

them to compare whom they nominated (Asher, 1983; Hayvren & Hymel, 1984). The feared end result is that the use of sociometric procedures may lead to further ostracism of unpopular or disliked children. Thus, primary concern has been raised over the collection of negative (i.e., peer rejection) measures (Connolly & Doyle, 1981; Ladd, 1983), although many school districts are apparently moving toward an outright ban of the collection of any form of sociometric data.

Although easily understood, concerns about the impact of sociometric assessment procedures are not supported by empirical evidence. Sociometric data have been collected on literally thousands of school children (see, for example, Ledingham, 1981; Pekarik, Prinz, Leibert, Weintraub, & Neale, 1976), and researchers who have collected such information have reported no apparent problems (Asher & Hymel, 1981; Coie et al., 1982). Asher (1983) recommended putative safeguards that included using a balanced mix of positive and negative items, timing the sociometric administration so that recess or other free time (i.e., and opportunity to compare responses) did not immediately follow, and reminding the students of the confidentiality of their responses.

Recent evidence supports clinical impressions that administration of sociometric instruments has relatively benign effects. After gathering positive and negative sociometric information from preschoolers, Hayvren and Hymel (1984) recorded all verbalizations made in the classroom in the ten minute period immediately following the assessment. Peer interactions were observed the week prior to and the week following the sociometric assessment. The authors found no evidence to suggest that sociometric testing adversely influenced the children's peer interactions. The children did not alter rates of interactions with most-preferred and least-preferred peers. Further, when they did talk about the sociometric, they revealed positive choices but did not mention negative choices to any peers.

Hayvren and Hymel's (1984) results are encouraging but not definitive. As Asher, Markell, and Hymel (1981) noted, rates of interaction are not valid indicators of social status. In addition, Hayvren and Hymel's study was conducted with preschoolers, whereas older children, with their greater abstracting ability, may question the reasons for the implications of the sociometric assessment. Further research using dependent variables that are sensitive to subtle changes in children's impressions about their peers is needed. If more evidence can be marshalled demonstrating the benign effects associated with sociometric assessment, then school districts might become less resistant to allowing the collection of this information. Recently, Asher and Dodge (1984) have explored another method of collecting peer social status data while circumventing ethical concerns associated with data collection. These investigators studied the value of using number of positive nominations and lowest ratings in combination and identified children who are rejected or controversial with good success. Although the method is less accurate in the identification of average, popular, and neglected children than the traditional classification method, it has an appealing advantage in that the solicitation of negative nominations is avoided.

Teacher Assessment of Social Status

Ethical concerns about the sociometrics as well as the recognized importance of understanding children's peer relationships have stimulated development of psychometrically robust alternatives to sociometric methods. The primary alternative is teacher evaluation of social status and peer relationships. Other possibilities (for example, self-reports, parental ratings, role-playing tasks) have consistently failed to meet generally accepted criteria for validity (Glow & Glow, 1980; Ledingham, Younger, Schwartzman, & Bergeron, 1982; Van Hasselt, Hersen, Whitehill, & Bellack, 1979).

Moderate correspondence between teacher and peer assessments has been demonstrated, with correlations ranging from .40 to .70 (Milich & Landau, 1982). This has been found for specific ratings of peer relations as well as assessments of behavioral adjustment. For example, Butler (1979) found a correlation of $-.67$ ($p < .001$) between peer nominations on the Class Play procedure and teacher ratings of adjustment. La Greca (1981) obtained good correspondence (i.e., all p values $< .001$) between teacher ratings on the three factors of the Pupil Evaluation Inventory (PEI) and a peer rating scale for boys but weaker correlations for girls. Matson, Esveldt-Dawson, and Kazdin (1983) obtained a correlation of .62 ($p < .001$) between teacher and peer rankings of popularity. In an extensive study, Meterko, Anderegg, and Budoff (1984) compared peer nominations on the Revised Class Play procedure with teacher ratings on the Bristol Scale of Adjustment and found evidence for convergent and discriminant validity. Peer nominations for sensitive-isolated behavior correlated significantly with teacher ratings of overcontrolled but not undercontrolled behavior. The opposite pattern of results held for peer nominations of aggressive-disruptive behavior. Peer nominations of sociability-leadership correlated significantly and inversely with both teacher scales.

Broad peer and teacher assessments of behavioral adjustment and social relationships are generally convergent. Several researchers have even argued that teachers offer more reliable and valid information about peer social status (Connolly & Doyle, 1981; Greenwood, Walker, Todd, & Hops, 1979). For example, Greenwood et al. (1979) developed a procedure whereby teachers rank order students in terms of popularity with their classmates. These investigators found greater retest reliability for the teacher measure than for a comparable peer measure, and the teachers were better able to identify socially withdrawn preschoolers. Similarly, Connolly and Doyle found this teacher ranking procedure to predict observed social behavior among a preschool sample to a greater degree than did peer positive nominations. In point of fact, the positive nominations from peers supplied no significant information (i.e., no incremental validity) beyond that supplied by the teacher rankings.

Information from teachers may be as useful as peer assessments, but we do not know how teacher ratings are related to observed negative behavior. To address this problem, Landau, Milich, and Whitten (1984) included peer rejection nomi-

nations and observed negative behavior in a replication of Connolly and Doyle (1981) with a sample of kindergarten boys. In comparison with teacher rankings, peer nominations contributed significant and unique information to the predictions of observed solitary play and negative interactions.

Although the results obtained by Landau et al. (1984) contrast with those of Connolly and Doyle (1981) and Greenwood et al. (1979), it may be the case that teacher assessments are more valid for preschool samples but not for older children. Furthermore, as Landau et al. (1984) pointed out, the fact that the teacher measure of peer popularity was weakly related to the observed negative interactions does not necessarily mean that teachers were insensitive to aversive classroom behaviors. In fact, teacher ratings of aggressive behaviors correlated .36 ($p < .01$) with observed negative interactions. Perhaps teacher rankings of popularity are not sufficiently comprehensive for the assessment of social relations.

A major criticism of teacher assessments is that, although consistent with peer assessments of broad categories of functioning, they have not proven sensitive to subtle behavioral distinctions of diagnostic and prognostic importance. For example, teacher assessment of social functioning often fails to distinguish between peer popularity and rejected status (Landau et al., 1984; Van Hasselt et al., 1979). More importantly, teacher ratings have not been as sensitive as peer measures to subtle distinctions among groups of children. Rolf (1976) found that peer nominations on the Class Play produced significant distinctions among subtle groups of vulnerable children (i.e., those with schizophrenic mothers vs. those with neurotic mothers) whereas teacher ratings did not. Similar differential results concerning peer and teacher assessments have been offered by Weintraub, Liebert, and Neale (1975), Weintraub, Prinz, and Neale (1978), Beisser, Glasser, and Grant (1967), and Rolf (1972). Peer nominations may also predict long-term outcomes better than teacher assessments (Cowen, Pederson, Babigian, Izzo, & Trost, 1973; Rolf, 1972).

The aforementioned research offers a pessimistic view of replacing peer measures with teacher assessments, especially if discrimination of social status groups is the goal. However, it may be premature to dismiss the utility of teacher ratings completely. One can argue that the appropriate teacher assessment instruments have not been developed or employed in these studies. For example, even though Landau et al. (1984) found teacher rankings of popularity to do a relatively poor job of identifying negative peer interactions ($r = -.25$), ratings of aggression by the teachers did a better job ($r = .36$), although still below the magnitude offered by peer rejection nominations ($r = .46$).

In a similar vein, Milich and Fitzgerald (1985) found that if the appropriate scales are employed teachers can make subtle behavioral differentiations, such as between the externalizing disorders of hyperactivity and aggression in the classroom, a distinction that earlier studies had dismissed as unreliable (see, for example, Lahey, Green, & Forehand, 1980). Milich and Fitzgerald found that

teacher ratings of inattention/overactivity exhibited unique relationship with classroom academic behavior (e.g., fail to attend, disapproval received from teacher), whereas ratings of aggression were uniquely related to classroom social behaviors (e.g., negative with teacher, physically aggressive). In an earlier study, Milich and Landau (1984) found these same teacher ratings of hyperactivity and aggression, when used conjointly, to differentiate subgroups of children differing in both social status and observed social behaviors.

The combination of teacher and peer assessments to identify social status subgroups offers an alternative to using only one data source. Ladd (1983) collected peer acceptance data and then asked teachers to divide the low acceptance children into neglected and rejected subgroups. Playground observations verified that the behavior of teacher-identified rejected children was consistent with descriptions reported in studies based on peer nominations. The teacher-identified rejected children engaged in significantly higher rates of both arguing and 'rough and tumble' behavior, and spent greater amounts of time unoccupied, compared with both popular and average students. Since Ladd (1983) did not report results for the neglected group, it is not known whether the teachers successfully identified this subgroup. Nevertheless, the results suggested that teachers can accurately identify rejected children from a low peer acceptance group. Future studies need to incorporate peer rejection data to test this conclusion further.

Rejected and Neglected Status

Differentiating rejected and neglected children is an important topic of research despite the sensitive ethical issues associated with asking children to make pejorative comments about classmates. Rejected and neglected children have different patterns of social behavior (Dodge et al., 1982). Studies predicting adult outcome suggest that only the group of antisocial rejected children is at substantial risk for future adjustment problems (Cowen et al., 1973; Kupersmidt, 1983). Likewise, rejected status has shown stability from elementary school to high school, whereas neglected status has not (Coie & Dodge, 1983; Coie & Kupersmidt, 1983).

The search for observed behavioral concomitants seems the most promising in terms of an effort to devise a developmental hypothesis about social status among peers. Indeed, observations have been used to investigate behavioral correlates of rejected and neglected social status with interesting result. Early informal observation studies focused on behaviors of preschoolers associated with high peer acceptance (Bonney & Powell, 1953; Charlesworth & Hartup, 1967). The few studies of behavior and social status of older children provided clear behavior patterns associated with peer rejection and peer neglect. In order to determine specific behavior differences among social status groups, Dodge et al. (1982) observed third, fourth, and fifth graders for several behavioral categories includ-

ing task appropriateness, aggression, and prosocial approaches. Rejected children engaged in less solitary task appropriate behavior than average and popular children and more aggressive acts toward peers. Rejected children attempted more social approaches in the classroom and fewer social approaches on the playground than all other status groups. These findings indicated that the rejected children did not alter the frequency of their approach behavior according to the appropriateness of the environmental context. In a second study, Dodge et al. (1982) enhanced interobserver reliability through the use of videotapes and were able to replicate the initial findings. Additionally, rejected children engaged in more child-teacher interactions than any other group, while neglected children made the fewest social approaches and were most task appropriate.

In Dodge et al. (1982), observations were conducted after social status was established. It is not possible from such data to determine if the significant observed behavior is the cause or consequence of a child's status (Coie & Kupersmidt, 1983). To clarify causal direction, Coie and Kupersmidt (1983) studied behavior associated with emergence of status in groups of unacquainted boys and maintenance of status in groups of acquainted boys. Each play group was composed of four black fourth grade boys: a rejected, popular, neglected, and average status boy. Five groups were composed of boys from the same classroom, and five were composed of boys from different schools who did not know each other. Each play group met in weekly videotaped sessions for six consecutive weeks. Social status ratings for all children were obtained at the end of each session. Analyses indicated that popular boys engaged in more active social interaction and less solitary appropriate activity than did the neglected boys. Average and rejected boys were intermediate to these two groups for both variables. By the final group sessions, familiar and unfamiliar rejected boys engaged in less parallel play and more solitary inappropriate behavior. Rejected boys also talked more while neglected boys talked less. Rejected boys exhibited the most aversive behaviors and neglected boys the least. Average boys also engaged in more aversive behavior than popular or neglected boys. The boys were interviewed at the end of each weekly session and were asked to rank-order their preferred playmates from the group. For familiar and unfamiliar groups after only three sessions, social status within the groups was highly correlated with the boys' school-based status.

These results are similar to findings by Dodge (1983), who has implicated social approach patterns and peer-directed aggression as the critical elements in determining peer status in groups. Focusing on sequences of behavior related to social approach and aggression, Dodge observed six play groups, each composed of eight unacquainted second grade boys of unknown social status who met together for eight weekly sessions. Children who became rejected or neglected spent much time in solitary play and little time in cooperative play or social conversation. The rejected children were more likely to attempt aggressive play interaction and more likely to engage in inappropriate play behavior than any other group. Rejected children engaged in more hostile verbalizations and hitting

than did neglected children, who spent more time in solitary play. Rejected children initially approached peers frequently; however, their interactions were of shorter duration compared with popular children, and the frequency of approaches and social conversation decreased in later sessions.

Although the re-emergence of status in groups of unacquainted children is a compelling illustration of its stability over a period of weeks, no data are more significant than those indicating that rejected status is a phenomenon that remains stable for years. In an oft-cited longitudinal study, Roff et al. (1972) reported strong correlations of stability for social preference scores ("liked most"–"liked least") of .53 for one year, .48 for 2 years, and .45 for 3 years. Coie and Dodge (1983) offered even more compelling data in the most important study of social status stability to date. These investigators collected yearly sociometric data from groups of third and fifth graders for a period of 5 years and reported correlations from Year 1 to Year 5 of .36 for the third graders and .45 for the fifth graders. This is most impressive when one takes into account the fact that these children changed peer groups when they shifted into junior high school. "Liked least" scores had greater stability than "liked most" scores, and rejected social status stability correlations were highly significant for all five years of the older cohort and for Years 1–3 of the third grade cohort. In other words, rejected children tended to remain rejected. Children of neglected status were rare in elementary school but more common among older children. They tended to move toward more positive social status without intervention (Coie & Dodge, 1983).

The data consistently suggest that rejected children interact frequently with their peers and are more disruptive and aggressive than others, whereas neglected children are less socially interactive and are almost never disruptive or aggressive (Coie et al., 1982; Coie & Kupersmidt, 1983; Dodge, 1983; Dodge et al., 1982; Green, Forehand, Beck, & Vosk, 1980). Rejected children reacquire their status when placed among children who do not know them. Their status remains quite stable over a period of years. Antisocial rejected children are at risk for mental health or general adjustment difficulties in adulthood. Neglected children are in quite a different and more positive position. For example, Cantrell and Prinz (in press) found few significant differences between neglected and accepted children, leading the authors to question whether neglected status constitutes a clinically deviant entity in need of attention. These differences in behavior, tractability, and outcome dictate differences in approaches to intervention for the two groups.

ISSUES IN TREATMENT

Behavior Shaping Procedures

Several intervention studies have been attempted with low-accepted children (Wanlass & Prinz, 1982). One group of studies was based on the assumption that

children are unpopular because they interact infrequently with peers and are deprived of opportunities to learn social skills and to make new friends. Consequently, the approach for treating these children has been to increase the frequency of interactions with peers through the use of shaping procedures derived from operant learning theory (e.g., Allen, Hart, Buell, Harris & Wolf, 1964; Strain, Shores, & Timm, 1977; Walker & Hops, 1973). Several clinical researchers have applied modeling techniques derived from social learning theory to promote social approach skills and other appropriate behavior with peers such as friendly play (Evers & Schwarz, 1973; Evers-Pasquale, 1978; Evers-Pasquale & Sherman, 1975; Keller & Carlson, 1974; O'Connor, 1969, 1972; Weinrott, Corson & Wilchesky, 1979).

Among the several methodological problems that should be addressed in connection with the modeling and shaping techniques are their dependence on systematic and contingent reinforcement, the ease with which frequencies of behavior return to baseline levels, the reliance on the spontaneous occurrence of the behavior which is to be reinforced, the simplistic nature of the behaviors typically reinforced, and the lack of adequate follow-up data. A significant issue associated with the modeling/shaping approach to intervention, however, is the definition of poor peer adjustment solely in terms of low interaction rate, an issue aptly discussed by Asher et al. (1981). Measures of social status have demonstrated little correspondence with rates of interaction (Deutsch, 1974; Furman, Rahe & Hartup, 1979; Gottman, 1977; Jennings, 1975). Some children who interact infrequently demonstrate competence when they do interact and also engage in appropriate but solitary work and play (Moore, Evertson & Brophy, 1974; Rubin, Maioni, & Hornung, 1976). There is even evidence suggesting that increasing the interaction rates of low-frequency children can lead to negative consequences (Kirby & Toler, 1970; Walker, Greenwood, Hops & Todd, 1979). In addition, longitudinal studies of the long-term consequences of low interaction rates have not indicated that early social isolation leads to subsequent mental health difficulties (Asher et al., 1981).

Social Skills Training

A second group of studies is predicated on the assumption that social problems result from particular social skill deficits rather than from a low frequency of interaction. These social skill training interventions presuppose that a child who lacks certain social skills will experience little in the way of successful interactions with peers and will acquire a low social status. Therefore, low-status children are coached to emit positive behaviors.

These oft-cited studies of social skills training (e.g., Gresham & Nagle, 1980; La Greca & Santogrossi, 1980; Oden & Asher, 1977) vary broadly with regard to which children are targeted as subjects, what skills are trained, and whether or not behavior or status changes are demonstrated. It is not surprising that they

have yielded mixed results. While most training interventions resulted in an improvement in roster-rating scores, at least three studies failed to demonstrate such improvement (Gottman, Gonso & Schuler, 1976; Hymel & Asher, 1977; La Greca & Santogrossi, 1980). Although improvements in social adjustment as assessed by roster-rater methods have been demonstrated, no one has documented significant improvements in peer nomination scores. Even though coaching is presumed to increase positive behavior (such as cooperation, participation, and conversation) and cause a change in status, some coaching studies do not demonstrate an increase in positive interactions (e.g., Gresham & Nagle, 1980; Hymel & Asher, 1977; La Greca & Santogrossi, 1980; Oden & Asher, 1977). Some investigations found a decrease in the frequency of aggressive behavior following social skills training but did not include a measure of social status (Gottman, Gonso, & Rasmussen, 1975; Zahavi & Asher, 1978). Overall, changes in skill levels have not been accompanied by changes in sociometric ratings, and changes in sociometric ratings have not been accompanied by changes in skill levels. This suggests that changes in status may not be mediated by changes in behavior associated with coaching (Putallaz & Gottman, 1983).

In view of the mixed results of these studies, it is important to restate that social skills treatment interventions arose out of a desire to increase the social interactions of withdrawn and shy children (Wanlass & Prinz, 1982). Given a 'social skills deficit' orientation, the training emphasized increasing behaviors and augmenting the child's behavioral repertoire. Such an orientation may have only limited utility for rejected children who have behavioral excesses in addition to social skills deficits. This conclusion is supported by two major investigations of social skills training with rejected children (Coie & Krehbiel, 1984; Pelham et al., in press).

Coie and Krehbiel (1984) noted that rejected youngsters often have the dual problems of aggressive/disruptive social interactions and academic difficulties. Since the authors hypothesized that a complete treatment program should address both difficulties, their study compared social skills training, academic tutoring, and the combination of both as treatments for social rejection. A sample of 40 black fourth graders met the following selection criteria for peer rejection: a standardized social preference score of less than -1.0, a 'liked least' standardized score greater than 0.0, and a 'liked most' standardized score less than 0.0. In addition, the children had math or reading achievement scores below the 36th percentile and were nominated by their teachers as having both serious academic and social adjustment problems.

The 40 children were randomly assigned to one of four treatment groups: (a) academic skills tutoring (AST modeled after the work of Wallach and Wallach, 1976); (b) social skills training (SST as developed by Oden & Asher, 1977); (c) combined academic and social skills training (AST/SST); and (d) no-treatment control (NT). The academic tutoring involved approximately 35 45-minute individual tutoring sessions with trained undergraduates. The tutors focused on those

academic areas in which the subject seemed most deficient. The social skills training involved six one-hour coaching sessions in which each subject was paired with a nonrejected classmate to permit the practice of skills. Skills of participation, cooperation, communication, and support were emphasized. In the SST condition the six individual sessions were followed by six more coaching sessions in small groups to practice the same skills. The NT control group had no contact with the project staff during the intervention phases. The dependent variables for the study consisted of pre- and postintervention measures of classroom observations, classroom sociometrics, and academic achievement. The sociometric data and academic testing were also collected again at one year follow-up. The primary analyses consisted of 2×2 (AST \times SST) analyses of covariance, with pretreatment scores serving as the covariates.

For the achievement measures, significant main effects for AST groups were obtained for reading comprehension and mathematics computation, and marginally significant effects for reading vocabulary and mathematics application. The only significant SST main effect was in reading comprehension. There were no significant interactions for any of the variables. In terms of social preference scores, there was a significant main effect for AST, with AST and AST/SST groups both improving in mean social preference scores beyond the cutting point for rejected status. At one-year follow-up, significant main effects for AST for the achievement and social preference scores were maintained. In contrast, there were no significant main effects for SST at follow-up, although there was a marginal improvement for reading comprehension. In terms of classroom behavior, solitary on-task behavior and solitary nondisruptive off-task behavior (two of five categories) showed significant improvements.

In summary, Coie and Krehbiel found that a relatively intensive academic tutoring program for rejected youngsters led to improvements in academic achievement, social preference scores, and on-task behavior in the classroom. The improvements exhibited in the first two categories were maintained at one-year follow-up (with no observational data collected at follow-up). Perhaps more importantly, their social preference scores moved them (as a group) from the rejected to the average status category. In contrast, social skills training produced improvement on only one measure (reading comprehension), a finding that was not maintained at follow-up. There were no significant improvements associated with SST in terms of either classroom behavior or social preference scores, the latter being the outcome measure for which this intervention is usually targeted.

The results obtained by Coie and Krehbiel are intriguing, both in terms of the encouraging results associated with the academic tutoring, as well as the relatively disappointing findings regarding social skills training. These results are consistent with those obtained by Pelham et al. (in press) in a multimodal treatment study of childhood attention deficit disorder with hyperactivity (ADDH). Specifically, Pelham et al. investigated the effects of behavior therapy, stimulant medication (i.e., methylphenidate) and social skills training, in various

combinations, in the treatment of 30 ADDH children. In addition to meeting the usual diagnostic criteria for Attention Deficit Disorder with Hyperactivity, a majority of the children were found to receive negative peer nominations (i.e., peer rejection scores) greater than two standard deviations above the classroom means.

The 30 children were assigned to one of five treatment groups. Twenty of the children received standard behavior therapy. This involved, on the average, 9.7 parent training sessions and 10.3 teacher training sessions. In addition, these 20 children were randomly divided into four groups, involving two levels of medication treatment (.3 mg/kg of methylphenidate vs. placebo) and two levels of social skills training (SST vs. none). SST involved group meetings for three hours every Saturday for eight weeks. The training was again modeled after the work of Oden and Asher (1977). The remaining ten children (i.e., those who received no behavior therapy) were placed in a social skill training contrast-treatment group and received the same SST treatment as children who also received behavior therapy. The dependent variables for the study consisted of pre- and posttreatment measures of parent and teacher ratings, positive and negative peer nominations, and observations of classroom behavior. For children in the SST contrast-treatment group, only peer nominations and teacher ratings were available.

A 2 (medication) $\times 2$ (social skills training) $\times 2$ (prepost) MANOVA for the 20 children in the behavior therapy groups revealed a significant main effect for prepost differences, but no other significant effects. In other words, receiving behavior therapy improved the children's behavior but the adjunctive treatments (i.e., medication, SST) did not significantly improve upon this effect.

Univariate analyses of variances indicated significant improvements for all categories of dependent variables, including parent and teacher ratings, peer nominations, and classroom observations. However, despite these improvements, 15 of the 20 children were still at least one standard deviation above the class mean in terms of negative nominations, and none of the children fell into the 'normal' range on the teacher ratings. Thus, there was evidence of improvement but not normalization. The adjunctive treatments did not add significantly to the results obtained for behavior therapy for any of the univariate analysis.

Separate analyses were undertaken comparing the pre- and post scores for the SST contrast-treatment group. In terms of teacher ratings there was a nonsignificant trend ($p .2$) towards improvement, whereas for the negative nominations there was a nonsignificant increase from pre- to posttreatment. The mean rejection scores rose from 9.5 to 10.9. When the 20 children who received behavior therapy were compared with the 10 who received SST only, the former showed significant improvement for teacher ratings and negative nomination scores.

In summary, Pelham et al. found that intensive behavior therapy (i.e., parent and teacher training) significantly improved the behavior of ADDH children across a variety of outcome measures, including parent and teacher ratings,

classroom observations, and peer nominations. A few individual children fell into the 'normal' range following treatment, but these improvements were not enhanced by the addition of medication and/or social skills training. Finally, and perhaps most importantly for the present discussion, SST alone did not significantly improve the behavior or social status of the ADHD children and was significantly less effective along both dimensions than was behavior therapy.

CONCLUSIONS

Taken together, the results obtained by Coie and Krehbiel (1984) and Pelham et al. (in press) offer valuable insights into the treatment of peer rejected youngsters. Both studies documented that it is possible to improve the social behavior and social status of such children, although neither study was successful in alleviating these difficulties entirely. More importantly, intensive social skills training did not significantly improve the children's social behavior or social status. Instead, treatments (i.e., behavior therapy and academic tutoring) designed to address behavioral or academic difficulties but not social status seemed to be effective in improving the children's social status.

As the Pelham et al. and Coie and Krehbiel studies demonstrated, interventions designed to decrease disruptive behavior and increase both compliant, on-task behavior and academic performance, appear secondly to have beneficial effects on the target child's peer relations. If this conclusion is valid, three treatments should be considered when intervening with a socially rejected child: systematic behavioral training, stimulant medication (Pelham & Murphy, in press), and academic tutoring. In the Pelham et al. study, the combination of parent and teacher training in behavioral techniques significantly reduced the target children's inappropriate behavior in the classroom, as well as concomitantly reducing the number of peer rejection nominations they received. Due to the design of the study, it was not possible to determine whether teacher training, parent training, or both were necessary. However, given that significant peer relations were assessed in the classroom, this would suggest that teacher training was the more effective intervention. Future research needs to address these methods of decreasing disruptive, aggressive behavior.

Although Pelham et al. (in press) did not find stimulant medication to add significantly to the efficacy of the behavioral interventions, the use of medication should be considered, especially in the treatment of socially rejected ADHD or aggressive youngsters. The Pelham et al. study collected its outcome measures approximately three weeks after the termination of the medication. Dependent variables collected during the course of treatment indicated that children who received methylphenidate in combination with behavior therapy were rated by teachers as 50% better than those children who received placebo and behavior therapy. This finding is consistent with a large body of research (see Pelham &

Murphy, in press) suggesting that the combined effects of methylphenidate and behavior therapy are greater than the effects of either alone.

The beneficial effects of medication upon peer interactions were evident in a study by Cunningham, Siegel, and Offord (in press). These investigators examined dyadic interactions of hyperactive and normal boys and found that methylphenidate not only improved the behavior of the hyperactive children but was also significantly related to improved responses by the normal peers. The normal children exhibited less controlling and domineering behavior toward the medicated hyperactive children than toward the same children when medication was not administered. It remains to be seen whether the positive effects of medication are visible on outcome measures dealing with peer relations and social rejection.

The final intervention to be considered here is systematic academic tutoring. As Coie and Krehbiel (1984) noted, many rejected children have both behavioral and academic problems in school. The results of the Coie and Krehbiel intervention study indicate that rigorous tutoring programs may not only improve both of these problem areas, but that the beneficial effects carry over into social relations and reduce nominations of rejection. Although it is impossible to pinpoint the actual mechanism involved in this social improvement, the results of this study strongly indicate that academic functioning and school work-related behavior may supply a vital link in the development of successful social relations. Assessment of academic functioning and, when appropriate, careful selection of interventions may be central in helping socially rejected children.

FUTURE DIRECTIONS

It has been the thesis of this chapter that the problems experienced by socially rejected youngsters go well beyond social skills deficits. Instead, these children exhibit a wide variety of behavioral excesses and deficits, including off-task, disruptive behavior (Pelham & Bender, 1982), academic difficulties (Coie & Krehbiel, 1984), aggressive attributional biases (Dodge, 1980) and impulsivity (Williams & Landau, 1983), among others. Interventions that focus primarily on social skills training are unlikely to be successful with this population, as the Coie and Krehbiel (1984) and Pelham et al. (in press) studies demonstrate. Instead, multimodal or prescriptive treatment approaches are needed to address the diversity of difficulties experienced by these children with behavioral excesses.

The past attempts at intervention which resulted in behavior change without sociometric status change pose a great dilemma. If behavior change is consistently effected in the absence of peer status change, then not only must the traditional approaches to intervention be reviewed but so must the use of sociometric status as an outcome variable. It remains unclear whether peers perceive subtle changes in behavior or whether perceived subtle changes in behavior

can produce major changes in attitude and response set. Interventions focusing on reputation and the peer group as the target for change may provide key information about effecting social status change in the peer group.

Just as change in behavior may not lead to a change in peer group status, a change in status may not lead to a long-term change in behavior or to a positive adjustment. It does not necessarily follow that, if poor peer relationships is an indicator of future difficulty, then intervention which results in improved social status will prevent future adjustment problems. Longitudinal data are needed to explore further the correlates of status and the long- and short-term benefits of intervention. Until evidence is available, social skills training and other forms of intervention cannot be presented as preventive.

Finally, innovative work by Ladd (1983) and Asher and Dodge (1984) suggests that relevant groups (those at risk for future difficulty) can be identified without the use of peer rejection measures. The continued development of alternative approaches to the collection of peer social status data is essential.

REFERENCES

- Allen, E., Hart, B., Buell, J., Harris, F., & Wolf, M. (1964). Effects of social reinforcement on isolate behavior of a nursery school child. *Child Development, 35*, 511-518.
- Asher, S. R. (1983). Social competence and peer status: Recent advances and future directions. *Child Development, 54*, 1427-1434.
- Asher, S. R., & Dodge, K. A. (1984). *The identification of socially rejected children*. Manuscript submitted for publication.
- Asher, S. R., & Hymel, S. (1981). Children's social competence in peer relations: Sociometric and behavioral assessment. In J. D. Wine & M. D. Smye (Eds.), *Social competence* (pp. 125-157). New York: Guilford Press.
- Asher, S. R., Markell, R. A., & Hymel, S. (1981). Identifying children at risk in peer relations: A critique of the rate of interaction approach to assessment. *Child Development, 52*, 1239-1245.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart and Winston.
- Beisser, A., Glasser, N., & Grant, M. (1967). Psychosocial adjustment in children of schizophrenic mothers. *Journal of Nervous and Mental Diseases, 145*, 429-440.
- Bonney, M. E. (1943). The relative stability of social, intellectual, and academic status in grades II to IV and the interrelationships between these various forms of growth. *Journal of Educational Psychology, 34*, 88-102.
- Bonney, M. E., & Powell, J. (1953). Differences in social behavior between sociometrically high and sociometrically low children. *Journal of Educational Research, 46*, 481-495.
- Bukowski, W. M., & Newcomb, A. F. (1984). The stability and determinants of sociometric status and friendship choice: A longitudinal perspective. *Developmental Psychology, 21*, 941-952.
- Butler, L. J. (1979). *Social and behavioral correlates of peer reputation*. Paper presented at the meeting of the Society for Research in Child Development, San Francisco, CA, April.
- Cantrell, V. L., & Prinz, R. J. (1985). Multiple perspectives of rejected, neglected, and accepted children: Relationship between sociometric status and behavioral characteristics. *Journal of Consulting and Clinical Psychology, 53*, 884-889.
- Charlesworth, R., & Hartup, W. W. (1967). Positive social reinforcement in the nursery school peer groups. *Child Development, 38*, 993-1003.
- Coie, J. D., & Dodge, K. A. (1983). Continuities and changes in children's social status: A five-year longitudinal study. *Merrill-Palmer Quarterly, 29*, 261-281.
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology, 18*, 557-570.
- Coie, J. D., & Krehbiel, G. (1984). Effects of academic tutoring on the social status of low-achieving, socially rejected children. *Child Development, 55*, 1465-1478.
- Coie, J. D., & Kupersmidt, J. B. (1983). A behavioral analysis of emerging social status in boys' groups. *Child Development, 54*, 1400-1416.
- Connolly, J., & Doyle, A. (1981). Assessment of social competence in preschoolers: Teachers versus peers. *Developmental Psychology, 17*, 454-462.
- Cowen, E. L., Pederson, A., Babigian, H., Izzo, L. D., & Trust, M. A. (1973). Long-term follow-up of early detected vulnerable children. *Journal of Consulting and Clinical Psychology, 42*, 438-446.
- Cunningham, C. E., Siegel, L. S., & Offord, D. R. (in press). A developmental dose-response analysis of the effects of methylphenidate on the peer interactions of attention deficit disorder boys. *Journal of Child Psychology and Psychiatry*.
- Deutsch, F. (1974). Observational and sociometric measures of peer popularity and their relationship to egocentric communication in female preschoolers. *Developmental Psychology, 10*, 745-747.
- Dodge, K. A. (1980). Social cognition and children's aggressive behavior. *Child Development, 51*, 162-170.
- Dodge, K. A. (1983). Behavioral antecedents of peer social status. *Child Development, 54*, 1386-1399.
- Dodge, K. A., Cole, J. D., & Brakke, N. P. (1982). Behavior patterns of socially rejected and neglected preadolescents: the roles of social approach and aggression. *Journal of Abnormal Child Psychology, 10*, 389-410.
- Evers, W., & Schwartz, J. C. (1973). Modifying social withdrawal in preschoolers: The effects of filmed modeling and teacher praise. *Journal of Abnormal Child Psychology, 1*, 248-256.
- Evers-Pasquale, W. (1978). The peer preference test as a measure of reward value: Item analysis, cross-validation, concurrent validation, and replication. *Journal of Abnormal Child Psychology, 6*, 175-188.
- Evers-Pasquale, W., & Sherman, M. (1975). The reward values of peers and prior social experience: An investigation of their influence on the efficacy of filmed modeling in modifying social isolation in preschoolers. *Journal of Abnormal Child Psychology, 3*, 179-189.
- Furman, W., Rahe, D. F., & Hartup, W. W. (1979). Rehabilitation of socially withdrawn preschool children through mixed-age and same-age socialization. *Child Development, 50*, 915-922.
- Glow, R. A., & Glow, P. H. (1980). Peer and self-rating: Children's perception of behavior relevant to hyperkinetic impulse disorder. *Journal of Abnormal Child Psychology, 8*, 175-188.
- Gottman, J. M. (1977). The effects of a modeling film on social isolation in preschool children: A methodological investigation. *Journal of Abnormal Child Psychology, 5*, 69-78.
- Gottman, J. M., Gonso, J., & Rasmussen, B. (1975). Social interaction, social competence, and friendship in children. *Child Development, 46*, 709-718.
- Gottman, J. M., Gonso, J., & Schuler, P. (1976). Teaching social skills to isolated children. *Journal of Abnormal Child Psychology, 4*, 179-197.
- Green, K., Forehand, R., Beck, J., & Vosk, B. (1980). An assessment of the relationship among measures of children's social competence and children's academic achievement. *Child Development, 51*, 1149-1156.
- Greenwood, C. R., Walker, H. M., Todd, N. M., & Hops, H. (1979). Selecting a cost-effective screening measure for the assessment of preschool social withdrawal. *Journal of Applied Behavior Analysis, 12*, 639-652.
- Gresham, F., & Nagle, R. (1980). Social skills training with children: Responsiveness to modeling and coaching as a function of peer orientation. *Journal of Consulting and Clinical Psychology, 48*, 718-729.

- Hartup, W. W. (1983). Peer relations. In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. IV. Socialization, personality, and social development* (pp. 103-196). New York: Wiley.
- Hartup, W. W., Glazer, J. A., & Charlesworth, R. (1967). Peer reinforcement and sociometric status. *Child Development, 38*, 1017-1024.
- Hayvren, M., & Hymel, S. (1984). Ethical issues in sociometric testing: The impact of sociometric measures on interaction behavior. *Developmental Psychology, 20*, 844-849.
- Horowitz, F. D. (1962). The relationship of anxiety, self-concept, and sociometric status among fourth, fifth, and sixth grade children. *Journal of Abnormal and Social Psychology, 65*, 212-214.
- Hymel, S., & Asher, S. R. (1977). *Assessment and training of isolated children's social skills*. Paper presented at the meeting of the Society for Research in Child Development, New Orleans, March, (ERIC Document Service Reproduction Service No. ED 136 930.)
- Jennings, K. (1975). People versus object orientation, social behavior, and intellectual abilities in children. *Developmental Psychology, 11*, 511-519.
- Justman, J., & Wrightstone, J. W. (1951). A comparison of three methods of measuring pupil status in the classroom. *Educational Psychological Measurement, 11*, 362-367.
- Keller, M., & Carlson, D. (1974). Use of symbolic modeling to promote social skills in preschool children with low levels of social responsiveness. *Child Development, 45*, 912-919.
- Kirby, F., & Toler, H. (1970). Modification of preschool isolate behavior: A case study. *Journal of Applied Behavior Analysis, 3*, 309-314.
- Kupersmidt, J. B. (1983). *Predicting delinquency and academic problems from childhood peer status*. Paper presented at the meeting of the Society for Research in Child Development, Detroit, MI, April.
- Ladd, G. W. (1983). Social networks of popular, average, and rejected children in school settings. *Merrill-Palmer Quarterly, 29*, 283-307.
- La Greca, A. M. (1981). Peer acceptance: The correspondence between children's sociometric scores and teachers' ratings of peer interactions. *Journal of Abnormal Child Psychology, 9*, 167-178.
- La Greca, A., & Santogrossi, D. (1980). Social skills training with elementary school students: A behavioral group approach. *Journal of Consulting and Clinical Psychology, 48*, 220-227.
- Lahey, B. B., Green, K. D., & Forehand, R. (1980). On the independence of ratings of hyperactivity, conduct problems, and attention deficits in children: A multiple regression analysis. *Journal of Consulting and Clinical Psychology, 48*, 566-574.
- Landau, S., Milich, R., & Whitten, P. (1984). A comparison of teacher and peer assessment of social status. *Journal of Clinical Child Psychology, 13*, 44-49.
- Ledingham, J. (1981). Developmental patterns of aggressive and withdrawn behavior in childhood: A possible method for identifying preschoolers. *Journal of Abnormal Child Psychology, 9*, 1-22.
- Ledingham, J. E., Younger, A., Schwartzman, A., & Bergeron, G. (1982). Agreement among teacher, peer, and self-ratings of children's aggression, withdrawal, and likability. *Journal of Abnormal Child Psychology, 10*, 363-372.
- Matson, J. L., Esveldt-Dawson, K., & Kazdin, A. E. (1983). Validation of methods for assessing social skills in children. *Journal of Clinical Child Psychology, 12*, 174-180.
- McCandless, B. R., & Marshall, H. R. (1957). A picture sociometric technique for preschool children and its relation to teacher judgments of friendship. *Child Development, 28*, 138-147.
- Meterko, M., Andereg, D., & Budoff, M. (1984). *Teacher and peer assessment of children's social competence*. Paper presented at the meeting of the American Psychological Association, Toronto, August.
- Milich, R., & Fitzgerald, G. (1985). Validation of inattention/overactivity and aggression ratings with classroom observations. *Consulting and Clinical Psychology, 53*, 139-140.
- Milich, R., & Landau, S. (1982). Socialization and peer relations in hyperactive children. In K. D. Gadow & I. Bialer (Eds.), *Advances in learning and behavioral disabilities*, Vol. 1 (pp. 283-339). Greenwich, CT: JAI Press.
- Milich, R., & Landau, S. (1984). A comparison of the social status and social behavior of aggressive and aggressive/withdrawn boys. *Journal of Abnormal Child Psychology, 12*, 277-288.
- Moore, N. V., Evertson, C. M., & Brophy, J. E. (1974). Solitary play: Some functional reconsiderations. *Developmental Psychology, 10*, 830-834.
- Moore, S. G., & Updegraff, R. (1964). Sociometric status of preschool children related to age, sex, nurturance-giving and dependency. *Child Development, 35*, 519-524.
- Moreno, J. L. (1934). *Who shall survive?* Washington, DC: Nervous and Mental Disease Publishing.
- Newcomb, A. F., & Bukowski, W. M. (1983). Social impact and social preference as determinants of children's peer group status. *Developmental Psychology, 19*, 856-867.
- O'Connor, R. D. (1969). Modification of social withdrawal through symbolic modeling. *Journal of Applied Behavior Analysis, 2*, 15-22.
- O'Connor, R. D. (1972). Relative efficacy of modeling, shaping, combined procedures for modification of social withdrawal. *Journal of Abnormal Psychology, 80*, 327-334.
- Oden, S., & Asher, S. R. (1977). Coaching children in social skills for friendship-making. *Child Development, 48*, 495-506.
- Peery, J. C. (1979). Popular, amiable, isolated, rejected: A reconceptualization of sociometric status in preschool children. *Child Development, 50*, 1231-1234.
- Pekarik, E., Prinz, R., Liebert, D., Weintraub, S., & Neale, J. (1976). The Pupil Evaluation Inventory: A sociometric technique for assessing children's social behavior. *Journal of Abnormal Child Psychology, 4*, 83-93.
- Pelham, W., & Bender, M. (1982). Peer relations in hyperactive children: Description and treatment. In K. D. Gadow & I. Bialer (Eds.), *Advances in learning and behavioral disabilities*, Vol. 1 (pp. 365-436). Greenwich, CT: JAI Press.
- Pelham, W. E., & Murphy, R. (in press). Behavioral and pharmacological treatment of attention deficit and conduct disorders. In M. Hersen & S. E. Breuning (Eds.), *Pharmacological and behavioral treatment: An integrative approach*. New York: Wiley.
- Pelham, W., Schnedler, R., Miller, J., Ronnei, M., Paluchowski, C., Budrow, M., Marks, D., Nilsson, D., & Bender, M. (in press). The combination of behavior therapy and methylphenidate in the treatment of attention deficit disorder: A therapy outcome study. In L. Bloomingdale (Ed.), *Attention deficit disorder*, Vol. 3. New York: Spectrum.
- Putallaz, M., & Gottman, J. M. (1983). Social relationship problems in children: An approach to intervention. In B. B. Lahey & A. E. Kazdin (Eds.), *Advances in clinical child psychology*, Vol. 6 (pp. 1-43). New York: Plenum Press.
- Roff, M., Sells, S. B., & Golden, M. M. (1972). *Social adjustment and personality development in children*. Minneapolis, Minn.: University of Minnesota Press.
- Rolf, J. E. (1972). The social and academic competence of children vulnerable to schizophrenia and other behavior pathologies. *Journal of Abnormal Psychology, 80*, 225-243.
- Rolf, J. E. (1976). Peer status and the directionality of symptomatic predictors of outcome for vulnerable children. *American Journal of Orthopsychiatry, 46*, 74-88.
- Rubin, K. H., Maioni, T. L., & Hornung, M. (1976). Free play behaviors in middle- and lower-class preschoolers: Parten and Piaget revisited. *Child Development, 47*, 414-419.
- Strain, P. S., Shores, R. E., & Timm, M. A. (1977). Effects of peer social initiations on the behavior of withdrawn preschool children. *Journal of Applied Behavior Analysis, 10*, 289-298.
- Thompson, G. G., & Powell, M. (1951). An investigation of the rating scale approach to the measurement of social status. *Educational and Psychological Measurement, 11*, 440-455.
- Van Hussell, V. B., Hersen, M., Whitchill, M. B., & Bellack, A. S. (1979). Social skills assessment and training for children. *Behavior Research and Therapy, 17*, 413-437.
- Walker, H. M., Greenwood, C. R., Hups, H., & Todd, N. M. (1979). Differential effects of reinforcing topographic components of social interaction. *Behavior Modification, 3*, 291-321.

- Walker, H. M., & Hops, H. (1973). The use of group and individual reinforcement contingencies in the modification of social withdrawal. In L. A. Hamerlynck, L. C. Handy, & E. J. Mash (Eds.), *Behavior change: Methodology, concepts, and practice* (pp. 269-308). Champaign, IL: Research Press Co.
- Wallach, M. S., & Wallach, L. (1976). *Teaching all children to read*. Chicago: University of Chicago Press.
- Wanlass, R. L., & Prinz, R. J. (1982). Methodological issues in conceptualizing and treating childhood social isolation. *Psychological Bulletin*, *92*, 39-55.
- Weinrott, M. R., Corson, J. A., & Wilchesky, M. (1979). Teacher-mediated treatment of social withdrawal. *Behavior Therapy*, *19*, 281-294.
- Weintraub, S., Liebert, D., & Neale, J. (1975). Teacher ratings of children vulnerable to psychopathology. *American Journal of Orthopsychiatry*, *45*, 838-845.
- Weintraub, S., Prinz, R. J., & Neale, J. M. (1978). Peer evaluations of the competence of children vulnerable to psychopathology. *Journal of Abnormal Child Psychology*, *6*, 461-473.
- Williams, T., & Landau, S. (1983). *Kindergarten overactivity, inattention, and impulsivity: Implications for social status*. Paper presented at the meeting of the National Association of School Psychologists, Detroit, MI, March.
- Zahavi, S., & Asher, S. R. (1978). The effect of verbal instruction on preschool children's aggressive behavior. *Journal of School Psychology*, *16*, 146-153.