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ABSTRACT

In this study, each of 33 middle class children from grades 3 and 4 was administered one of three experimental conditions designed to test in what ways coaching in social play skills improves the sociometric status of the children with their peers. The subjects were selected because of their low ratings on sociometric questionnaires. Condition 1 consisted of instruction, play with a highly rated same-sex peer and review of the play experience with the coach; Condition 2 consisted of similar peer pairing and play without coaching; and Condition 3 consisted of being paired with a highly rated peer but playing games separately to control for possible prestige effects. During play sessions observations were made of frequency of the positive social behaviors being coached, and following coaching the sociometric questionnaires were again administered as a post-test. Results indicate that children who were coached received higher play ratings than children in the other two conditions, but that coaching for play situations did not result in generalization to the work situation. Gain in peer acceptance for play was not accompanied by gain in number of friends. It is suggested that work ratings and friendships depend on social skills not included in the present coaching. The important aspects of coaching for gains on sociometric measures in the play situation are discussed. (GO)

Coaching Children in Social Skills for Friendship-making

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As most children progress in their development, they tend to increase in their peer interactions and stabilize in their friendships (Horrocks and Buker, 1951; Parten, 1932; Shure, 1963). Some children, however, are quite isolated from social relationships. For example, Gronlund (1959) found that 6% of third through sixth grade children in one school system had no classroom friends and an additional 12% had only one friend. Children who are socially isolated, compared to those who have friends, are more likely to drop out of school (Ullmann, 1957), have behavior problems such as delinquency (Roff, Sells, and Golden, 1972), and experience mental health problems in later life (Cowen, Pederson, Babigian, Izzo, and Trost, 1973).

Research is needed on strategies of teaching social skills to isolated children. A number of studies have examined the effectiveness of shaping (e.g., Allen, Hart, Buell, Harris & Wolf, 1964; O'Connor, 1972) and modeling (e.g., O'Connor, 1969, 1972) on isolated children's social behavior. O'Connor (1972), for example, demonstrated the effectiveness of a film in which children approached other children in play activities. A group of socially isolated preschool children viewed the film and were subsequently observed to increase in their peer interactions. A control group which watched a neutral film did not change. Follow-up assessments several weeks later indicated that the increase in peer interactions was maintained. In the same study, shaping procedures were found to be initially effective, but gains were not maintained over time.

These training studies have attempted to increase the amount or frequency of isolated children's social interaction. Since sociometric data was not collected, however, there is no way to assess whether behavioral changes resulted in gains in peer acceptance or friendships (Asher, Oden, & Gottman, in press). For example, it is conceivable that a child's social interaction with peers could increase and peers think, "What a kid, he used to play by himself all the time; and now he's always hanging around."

In the present study, isolated children were trained on social skills and the impact of the training on their sociometric status was assessed. The procedure used for training differed from previous studies. Shaping and modeling rely minimally on verbal instructions. The present study used a coaching procedure to capitalize on children's capacity to learn social skills from discussion of concepts and rules. Coaching in the present study involved the provision of instruction on concepts and rules for behavior in a play situation. Also included were practice with another child in a play session, and review of the play session in light of the concepts and rules coached.

Studies have found coaching to be effective in training social skills in adults and children. For example, McFall and Twentyman (1973) coached assertive behavior in college students and found that provision of concepts and rules for behavior and opportunity for practice or rehearsal was an effective method of teaching skills. Chittenden (1942) trained cooperative behavior in preschool children by using dolls to illustrate peer conflict situations. Children were encouraged to verbalize prosocial solutions to conflict.

The present study extended these coaching approaches to the training of social skills in isolated children for gains in peer acceptance and friends.

Children were given coaching in the importance of the following concepts: a) participating in play activities and games; b) cooperating with peers by taking turns and sharing; c) communicating with other children by talking a lot; and d) validating or supporting peers by giving attention and help. These concepts correspond to behaviors which have been found to correlate with peer acceptance (Asher, Oden, & Gottman, in press; Hartup, 1970; Moore, 1967). Accordingly, they were selected for coaching isolated children.

Three conditions were employed. The coaching condition consisted of instruction, play with a same-sex peer, and review of the play experience with the coach. Since peer pairing for activities has been found to increase children's social interaction (Levison, 1971) and social acceptance (Chennault, 1967), a pairing condition without coaching was included. A control condition was also employed to examine possible prestige effects of being paired with a highly rated peer and taken out of the classroom by the experimenter. The control children were taken out of the classroom with peers, but they played games separately. Children in the coaching condition were expected to make the most gain in sociometric status and children in the pairing condition were expected to make less gain, but still more than the control condition. Behavioral assessments were also made of the coaching and pairing groups. During their play session, observations were made yielding frequency totals corresponding to the behaviors which were coached. These included participating in the activity (e.g., playing with materials); being uncooperative-rejecting to the other child (e.g., hogging materials, name calling); being uncommunicative-ignoring (e.g., staring into space); being validating-supporting (e. g., glancing at other, helping). It was expected that children's positive social behavior would

increase across sessions in both the coaching and pairing groups with the largest gains made by the coaching group.

METHOD

Subjects

A sociometric questionnaire was administered to eleven third and fourth grade classrooms to assess children's sociometric status. The children were in predominantly middle class schools.

Phase One

Sociometric Questionnaires. A peer roster-and rating sociometric questionnaire (Roistacher, 1974) was administered by an adult female who introduced herself as someone who was interested in learning about how children play and work together in school. Children rated each other child in answer to two questions: How much do you like to play with this person at school?" and "How much do you like to work with this person at school?" The scale consisted of five points with one being "I don't like to" and five being "I like to a lot." Each question was administered separately during the same session. A friendship inventory was administered on a different day by a different adult female who said she was interested in children's friendships in school. Children were asked to name one, two, or three of their best friends in the classroom.

These three sociometric questionnaires yielded three measures for each child: a play rating based on the average rating received from other children, a work rating also based on the average rating received, and a friendship measure based on the number of friendship votes received. Measures were based on same sex ratings or votes since third and fourth grade children typically give low ratings to opposite-sex peers.

The socially isolated children were selected on the basis of the average of their play and work ratings from same sex classmates. In each classroom, the following selections were made:

(1) The three lowest rated children of only one sex were selected and each child was randomly assigned to one of the three conditions such that there was an equal distribution of children who were the lowest rated, second lowest, and third lowest within each condition. Thirty-three children, 18 males and 15 females were thus selected for training.

(2) Since partners were needed for pairing with the isolated children, the third through eight highest-rated children of the same sex were selected.

(3) The highest-rated child of the same sex as the isolated children was selected. The second highest child also was selected and served as the highest-rated child's partner for one play session. The highest rated children served as a criterion group for purposes of comparison with the isolated children.

Table 1 provides summary data for each group selected on the sociometric measures prior to training.

The games played in coaching and pairing conditions were those found in pilot research to be conducive to positive social interaction ("Funny Bones," a coin game, dominoes, "Blockhead," picture drawing, and tic tac toe). Control children were given similar games which they could play alone. Games and partners were randomly assigned to conditions such that there was no order bias of games and partners across sessions for any of the conditions.

TABLE 1

Means and Standard Deviations on Sociometric Measures at Pre-Training

	Isolated	Partners	Criterion
Play	2.71 (.52)[a]	3.91 (.43)	4.49 (.31)
Work	2.33 (.49)	3.56 (.55)	4.46 (.28)
Friends	.88 (.84)	2.56 (1.59)	5.70 (2.36)

[a] standard deviations are in parentheses.

Phase Two

Baseline. Two weeks after the pre-training assessment, the experimenter (the first author) was introduced in each classroom by the teacher as someone who would ask children to try out some games. The experimenter explained that they would be later asked for their opinion of the games. Each pair of children

was escorted to a room with a table and two chairs placed next to each other. An observer was seated approximately five feet in front of the table. The observer, an adult female, was introduced as someone who was interested in the games and would keep track of the time. Each play session lasted twelve minutes. During piloting of the games this length of time appeared to optimize children's positive social interaction. After the play session, the experimenter asked the children for their opinion of the game. Children in all three conditions were given a baseline and five subsequent play sessions over a four-week period.

Coaching Condition. Coaching was conducted in a separate space out of view from the play session room. The experimenter also did the coaching. The child was first asked how she (or he) liked the game they had played the first time and why they thought it was or was not a "fun game" to play with another person. The coach then said: "I have some ideas I'd like to talk to you about what makes it fun to play a game with another person." The child was then given coaching on participation, cooperation, communication, and validation-support.[1] The coach and the child then went back to the classroom and signaled another child for the play session. After the play session, both the partner and the coached child were asked how much they liked the game. The partner was then sent into the classroom while the coached child was walked back to the coaching area for three to five minutes of review of the play session.

Peer Pairing Condition. Children were paired for the play sessions and played the same games with the same partners as the coached children, but received no coaching.

Control Condition. Children in this condition were paired for the play sessions with the same partners as in the other conditions, but they played in the same room separately.

Phase Three

Post-training Assessment. The interval between the end of the training phase and the beginning of the post-training assessment was three to five days. The sociometric questionnaires were again administered by the same persons who administered the pretests. Interviews conducted with the children after the experiment indicated that children made no connection between the assessment and training phases of the experiment nor did they question the purpose given for the play sessions.

RESULTS

All analyses were conducted with two data sets, one consisting of the ratings or votes given by children who were present and rated children at both times of assessment and one data set consisting of all ratings or votes regardless of absences. Results presented here are based on the former data set. Nearly all analyses when performed with the other data set yielded quite similar results. Sex was initially included as a factor in all analyses. No significant effects for sex were obtained so the data were pooled across sex.

Correlational analyses were performed to learn how the sociometric measures interrelated and whether each measure was stable from pretest to posttest. Tables 2 and 3 show the correlations for the play, work, and friendship measures for children of the sex group in each classroom which participated in the study. Highly similar correlations were found with the opposite sex group in each classroom which did not participate in the study. The correlations were highly significant between play and work at pre- and post-training. The pretest-posttest correlations for these measures were also highly significant. Correlations for the friendship measure with play and work were lower but generally significant. Pretest-posttest correlations for the friendship measure were also lower but predominantly significant.

TABLE 2

Intercorrelations Between Play, Work, and Friends at Pre- and Post-Training for Participating Subjects by Classroom on Sociometric Ratings

Measures Correlated		Play and Work		Play and Friends		Work and Friends	
		Pre	Post	pre	Post	Pre	Post
Classroom[a]	(n)						
1	16	.95**	.97**	.79**	.69**	.74**	.67**
2	15	.89**	.93**	.46	.69**	.37	.71**
3	10	.88**	.80**	.80**	.62	.69*	.55
4	11	.92**	.86**	.41	.79**	.55	.82**
5	15	.92**	.81**	.71**	.68**	.79**	.71**
6	12	.85**	.91**	.74**	.28	.62*	.41
7	14	.86**	.88**	.87**	.37	.73**	.12
8	16	.90**	.93**	.63**	.47*	.48	.31
9	18	.93**	.94**	.53*	.27	.49	.18
10	13	.85**	.96**	.41	.80**	.70**	.85**
11	12	.85**	.90**	.60*	.45	.81**	.47

* - $p < .05$, two-tailed test
** - $p < .01$, two-tailed test

[a] n — Classrooms 1 - 6, males participated in the experiment and in classrooms 7 - 11, females participated in the experiment.

TABLE 3

Correlations for Play, Work, and Friends Between Pre- and Post-Training for Participating Subjects by Classroom on Sociometric Ratings

Classroom[a]	(n)	Play		Work		Friends	
		Pre	Post	Pre	Post	Pre	Post
1	16	.95**		.94**		.76**	
2	15	.81**		.77**		.76**	
3	10	.86**		.82**		.65*	
4	11	.52		.56		.64*	
5	15	.80**		.83**		.77**	
6	12	.89**		.93**		.44	
7	14	.67**		.60*		-.37	
8	16	.91**		.91**		.69**	
9	18	.88**		.88**		.70**	
10	13	.82**		.85**		.70**	
11	12	.79**		.84**		.21	

* - $p < .05$
** - $p < .01$

[a] Classrooms 1 - 6, males who participated in the experiment and classrooms 7 - 11, females who participated.

Play Ratings

A 3 x 2 (Condition x Time) analysis of variance was applied to the play ratings. Condition was a between-subjects factor and Time was a within-subjects factor. Table 4 shows the means and standard deviations for the play rating. The main effects of Time, F (1, 30) = .31, and Condition, F (2, 30) = .42, were not significant, The Condition x Time interaction was highly significant, F (2, 30) = 7.32, $p < .01$. Coaching children increased from pre- to post-training; pairing children declined and control children remained the same. Planned comparisons were made to assess whether changes were significant. The coaching groups increase was significantly greater than the other two groups taken together, F (1, 30) = 13.12, $p < .02$. The pairing group's decline, when compared to the control group, was not significant (F = 1.67). Figure 1 shows the Condition x Time interaction.

Children who were partners with the isolated children during the play sessions may have rated them differently than those children who did not serve as partners. Table 5 shows the means and standard deviations for play ratings received from partners versus nonpartners. A 3 x 2 x 2 (Condition x Time x Type of Rater) analysis of variance was applied to the data. No significant effect of Type of Rater was obtained, F (1, 30) = 2.01. Both partners and nonpartners increased their ratings of coached children, lowered their ratings for paired children and rated control children nearly the same. Furthermore, Type of Rater did not interact significantly with other variables.

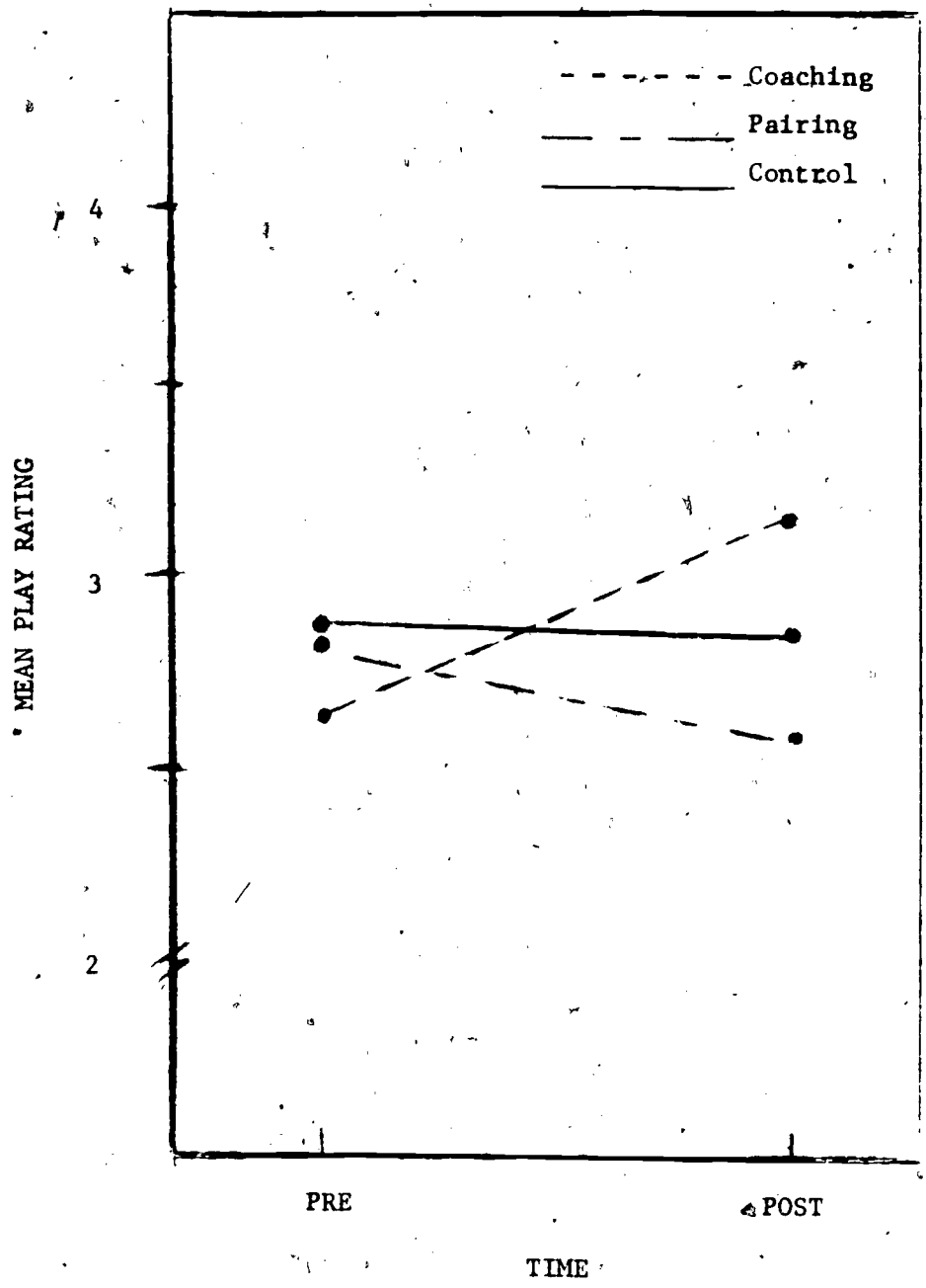

Figure 1. Conditions Across Time on Play Sociometric Ratings

TABLE 4

Means and Standard Deviations for Experimental Groups on Play Sociometric Ratings Across Time

Group[a]	Time	
	Pre	Post
Coaching	2.63 (.71)[b]	3.09 (.84)
Pairing	2.78 (.57)	2.48 (.57)
Control	2.79 (.48)	2.75 (.62)

[a] $\underline{n}$ = 11 for each group.

[b] standard deviations are in parentheses.

TABLE 5

Partners and Nonpartners on Play Sociometric Ratings

Group[a]	Time			
	Pre		Post	
	P*	NP	P	NP
Coaching	2.70 (.86)[b]	2.48 (1.04)	2.88 (.94)	3.31 (.98)
Pairing	2.64 (.84)	2.92 (.76)	2.37 (.75)	2.59 (.75)
Control	2.70 (.70)	2.83 (.34)	2.52 (.79)	2.92 (.62)

* Note - P = Partners; NP = Nonpartners.

[a] n = 11 for each group.

[b] standard deviations are in parentheses.

The nonpartner data included the isolated children's ratings. Perhaps isolated children might have changed their ratings of others as a function of their participation in the experiment. The 3 x 2 x 2 analysis of variance (Condition x Time x Type of Rater) was therefore repeated without the ratings given by isolated children. The findings were similar with nonsignificant effects for Type of Rater and nonsignificant interactions of Type of Rater with Condition or Time.

Work Ratings

Table 6 shows the means and standard deviations for the work ratings. Although the coaching group gained slightly more than the other two groups, the differences in gain are small. The 3 x 2 (Condition x Time) analysis of variance found no significant main effects of Condition, F (2, 30) = .35, or Time, F (1, 30) = .39, or the interaction of Time x Condition, F (2, 30) = .21. The 3 x 2 x 2 (Condition x Time x Type of Rater) analysis of variance found no significant main effect for Type of Rater, F (1, 30) = 2.30, nor did Type of Rater interact significantly with other variables. Children who served as partners thus rated the isolated children similarly to those who were not partners. Type of Rater also yielded nonsignificant effects when the ratings given by isolated children were excluded.

Friendship Choices

Table 7 shows the means and standard deviations for the friendship measure. The 3 x 2 (Condition x Time) analysis of variance found no significant effects for Condition, F (2, 30) = .11, Time, F (1, 30) = 2.50, or Time x Condition, F (2, 30) = .51. However, there was an overall gain in the number of friendships

TABLE 6

Means and Standard Deviations for
Experimental Groups on Work Sociometric Ratings

Group[a]	Time	
	Pre	Post
Coaching	2.43 (.60)[b]	2.58 (1.03)
Pairing	2.30 (.50)	2.28 (.59)
Control	2.38 (.56)	2.45 (.63)

[a] n = 11 for each group.

[b] standard deviations are in parentheses.

TABLE 7

Means and Standard Deviations for
Experimental Groups on Friendship Choices

Group[a]	Time	
	Pre	Post
Coaching	.64 (.81)[b]	1.09 (.70)
Pairing	.82 (.60)	.91 (.94)
Control	.91 (1.04)	1.09 (1.22)

[a] n = 11 for each group.

[b] standard deviations are in parentheses.

over time with coaching children gaining the most. The 3 x 2 x 2 (Condition x Time x Type of Rater) analysis of variance indicated no significant main effect for Type of Rater, F (1, 30) = .64, but a significant Time x Type of Rater interaction, F (1, 30) = 4.10, $p < .05$ with partners remaining stable in the votes they gave to isolated children and nonpartners increasing their votes for isolated children over time. The gains in nonpartner votes, interestingly, appear to be due primarily to votes given by other isolated children. Only a trend of significance for the Time x Type of Rater interaction was obtained when isolated children's votes were not included, F (1, 30) = 3.27, $p < .08$.

Behavior Measures

Inter-rater reliability was based on the percentage of agreement between observers for each judgment. One male adult and two female adults were trained to a range of 86 to 97% agreement prior to the experiment. One female adult served as the principle observer and the other female adult was used to provide random reliability checks throughout the experiment. Their reliability ranged from 76.1 to 97.2% with an average reliability of 90.9%. Since children played for twelve minutes and behavior was coded every tenth second, there were 72 units of observation for each session. The behavioral measures (participation, uncooperative-rejecting, uncommunicative-ignoring, validating-supporting, and other) thus could range from 0 to 72 in frequency per session.

An initial analysis was performed on the baseline data to learn whether the coaching, pairing, and criterion (i.e., highest-rated) children initially differed. A one way analysis of variance found no significant differences between the groups on any of the behavioral measures. Inspection of Table 8,

TABLE 8

Means and Standard Deviations for Coaching, Pairing and Criterion Groups on Behavioral Measures

(A) Measure	Group		
	Coaching	Pairing	Criterion
Participation	67.90	70.70	71.40
	(7.26)[a]	(3.20)	(1.58)
(B)			
Rejecting	.30	.50	.10
	(.95)	(1.27)	(.32)
Ignoring	56.20	56.30	55.70
	(6.53)	(8.74)	(5.36)
Support	14.00	13.20	13.30
	(6.43)	(7.63)	(6.40)
Other	1.50	2.00	2.90
	(1.72)	(1.41)	(2.69)

[a]standard deviations are in parentheses

however, indicates that the criterion children were somewhat higher in participation and lower in frequency of rejecting behavior. A 2 x 6 (Condition x Session) analysis of variance was performed to compare coaching and pairing children across play sessions. No significant effects for Condition were found on any of the behavior measures. A significant main effect for Session, F (5, 90) = 3.24, $p < .01$, was found for only one measure, participation. This was due to increased participation across sessions for both coaching and pairing children.

In summary, the behavioral observation data, unlike the sociometric data, show no effects of training on children's frequency of behavior in each of the categories across conditions or time.

DISCUSSION

Socially isolated children received coaching primarily for play situations. It is therefore of some interest that the major finding of this study was on the play sociometric measure. Children who were coached received higher play ratings than children in the other conditions. An additional finding was that coaching for the play situation did not result in generalization to the work situation. It is likely that certain social skills are relevant to the work situation which were not included in the present coaching procedure. It would be interesting to learn whether coaching for work situations would produce results parallel to those obtained here.

Another finding was that gain in peer acceptance for play was not accompanied by gain in number of friends. The friends measure allowed children to select just three best friends. It is unlikely that children would substitute a recently trained child for a long-standing friend. Furthermore, friendship may require additional social skills not included in the coaching. For example, it

may be especially important to initiate play activities with peers or invite children home after school.

Peer pairing in this study did not result in gain in sociometric status. Earlier studies have found peer pairing to be effective (Chennault, 1967; Rucker and Vincenzo, 1970). In these studies, children participated in unusually interesting activities such as designing a carnival. Further examination of the pairing procedure might vary the type of activity provided.

The data from the control condition indicated no change from pretest to posttest. Merely pairing a low-accepted child with a high-accepted child and escorting them out of the classroom did not result in changes in peer status.

Given that the coached children were more accepted on the play measure, further research should examine what it is about this coaching procedure that was effective. The important aspects of this coaching most likely included: (1) focusing on concepts relevant to children's social relationships; (2) instructing children in these concepts by asking them to think of behavioral examples for the concepts; (3) providing children with an immediate social situation conducive to practice and learning; and (4) asking children to evaluate outcomes of situations both for themselves and the other person. This coaching would appear to be useful to children's guiding, evaluating, and changing their social behavior. Alternatively, it is possible that the coached children's gains resulted from receiving attention from the coach. This special attention might lead to an enhanced self-concept and more positive social behavior. Future studies might include a condition in which children received an experimenter's attention, but no training on social skills.

The results indicated that the behavioral assessment of the coached children in the play sessions did not parallel the change in peers' assessment of the coached children. Behavior in classroom situations in addition to the play situation of this study might also be observed. Isolated children may make changes in situations which are critical to peers altering their previous perceptions of them. For example, a quiet child may begin to talk more in class; a disruptive child may begin to cooperate more in a group game. Another possibility is that behavioral changes may be difficult to detect. This may be particularly true for adults with no previous knowledge of the child's behavior. Teachers and peers may provide good sources of information about behavioral change in the trained children.

The coaching procedure in the present study was designed with teachers in mind. Future studies might be conducted to train teachers, parents, and perhaps older peers to coach social skills in children. Furthermore, more baseline individual assessment could provide a basis for individualized coaching according to the social learning needed for a given child.

Finally, follow-up assessment is particularly important for evaluation of coaching isolated children. It is important to determine whether changes in teacher behavior or classroom activity are needed to support gains from coaching. A follow-up study of the children's progress from the present study is currently being planned.

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FOOTNOTES

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[1] A detailed description of the coaching procedure is available upon request from Sherri Oden, Center for Development, Learning, and Instruction, The University of Rochester, Rochester, New York, 14627.

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