Problem-Solving Training: Its Effect on Preschool Children's Actual and Perceived Competence and Behavioral Adaptation

by

Roselle Friedman

This study evaluated the effects of an interpersonal cognitive problem-solving training program on the general competence and behavioral adaptation of preschool children. Two groups of four year olds were assigned to either an experimental (interpersonal problem-solving condition) or a control (storytime) condition. Measures of child-rated cognitive, social, physical and general competence were collected pre and post training. No significant pretest or posttest between-group differences were found on any of the child-rated scores. A significant pretest difference found on the teacher-rated social competence test was upheld at posttest. The teacher-rated total competence scores showed significant between-group differences at posttest only. A significant between-group difference was found at pretest on the teacher-rated Classroom Behavior Inventory (CBI) total. At posttest none of the factors of the CBI or its total was found to show significant differences between the groups. Based on these results, it cannot be shown that interpersonal cognitive problem-solving training has an effect

on the cognitive or social competence, or behavioral adaptation of preschool children.

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A thesis submitted in partial fulfillment of the requirements for the degree of

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in

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at

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To Professors Blaney, Parker and Levitt,

This thesis, having been approved in respect to form and mechanical execution, is referred to you for judgement upon its substantial merit.

Dean Mau
College of Arts and Sciences

The thesis of Roselle Friedman is approved.

Professor Janat Parker

Professor Mary Levitt

Professor Nancy Blaney, Chair

Date of Examination: August 4, 1983

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I

Review of the Literature

Recent trends in American psychology have pointed to a synergism between applied developmental and community psychology for enhancing interpersonal competence, and for planning environments sensitive to changing developmental needs for all age groups (Masterpasqua, 1981).

Developmental psychology has for some time been concerned with the changing organization and development of cognitive structures (Urbain & Kendall, 1980), and has also begun to focus on social adaptation and the role competence plays in the development of prosocial behavior (Garmezy, Masten, Nordstrom & Ferrarese, 1979).

From a separate perspective, community psychology advocates the adoption of an ecological orientation, with an emphasis on prevention, early intervention and the development of competencies (Rappaport, 1977). George Albee's (1981) prevention model stresses the promotion of individual, family and community competence. Its objectives are to encourage individuals and families to learn how to cope with developmental and stressful periods, and to support community groups by encouraging social support networks and self-help groups. Proponents of the community approach feel that the narrow focus on illness and its remediation has finally begun to yield

to the promotion of competence as a source and goal of primary prevention (Gesten, Cowen & Wilson, 1979).

In summary, applied developmental and community psychologists have both urged that the focus of developmental prevention activities be on the enhancement of competence in an individual. If personal competence is to be considered as a synergistic factor for community and applied developmental psychology to explore, it would be useful to seek a general definition to build upon. A review of the literature shows that there are many and decidedly different concepts of competence. Medical, social learning, community, effectance and self-actualization models have their own specific definitions of personal competence.

Those advocating a medical approach would define competence as a coping mechanism one uses to search for information, solve problems, seek help from others, recognize and label emotions and establish goals (Haan, 1953).

The social learning approach focuses upon one's ability to regulate and/or change his or her own actions (Bandura, 1977). Gilbert (1978) believes that we should look beyond specific behavior and skills and find personal competence in the accomplishments that people achieve. If our skills allow us to accomplish our objectives, then we are exhibiting competent behavior.

The community approach states that flexibility within people to adjust to changing situations, and having a

repertoire of possibilities and alternatives are important to any definition of competence (Bennis, 1968).

The effectance model defines competence as an attempt to gain a sense of control over one's environment. It involves the ability to: (a) gain and process new information, (b) maintain a hold on one's effective state, and (c) move without hindrance in one's environment (White, 1959).

The self-actualization model defines competence as the thoughts and actions one performs to maintain and enhance strengths and abilities (Rogers, 1977).

Regardless of orientation, however, characteristics of competence can be summarized as including: (a) using coping strategies to deal with stress and anxiety, (b) developing skills that lead to valuable and measurable accomplishments, (c) knowing where and how to acquire resources with which to accomplish a task, (d) maintaining flexibility in dealing with one's environment, and (e) attempting to gain a sense of mastery over one's environment.

All of the above models offer valuable aspects of competence, but only the social learning approach has contributed most of the empirical evidence to date. For instance, researchers (Gresham & Nagle, 1980; Ladd, 1981; Oden & Asher, 1977) in the social learning field concentrated on specific competencies that could be applied

to specific situations. Their results showed that three skills were especially important to maintain children's personal competence: (a) peer acceptance, (b) peer interaction, and (c) assertiveness. Socially isolated children have been found to be poorly accepted by their peers, which in turn has limited their opportunities to learn the skills needed for social competence (Oden & Asher, 1977). Ladd (1981) trained children in the use of three specialized social concepts: (a) asking questions of peers, and (b) offering useful suggestions or directions to peers, and (c) offering supportive statements to peers. He felt that these skills were highly correlated with peer acceptance. Those children initially designated by a pretest sociometric measure as social isolates showed a posttraining decline in non-social behavior, and became more readily accepted by their peers. Ladd's (1981) training methods also produced posttest increases in the areas of asking questions of peers and offering useful suggestions or directions. Children's supportive statement behavior did not increase on the posttest sociometric measure.

Peer acceptance has also been studied with developmentally disabled populations. High levels of peer rejection and low abilities to maintain and initiate social interactions have been found with populations such as the mentally retarded (Ballard, Corman, Gottleib &

Kaufman, 1977) and the learning disabled (La Greca & Mesibov, 1981). La Greca and Mesibov (1981) conducted a program for learning disabled boys, ages twelve to sixteen, who had shown signs of poor peer interactions with others. The training program joined the skills of initiating social interactions with those of communication-conversation through the use of modeling, coaching and behavior rehearsal. Results showed an improvement in interpersonal skills and increased interaction with peers for this chosen sample.

A study that compared a skills approach with a cognitive behavioral approach for teaching assertiveness was done by Hammen, Jacobs, Mayol & Cochran, (1980). Results indicated that the skills training method was not significantly better or worse than the cognitive behavioral method. Both, however, were found to be significantly better in mediating shyness than no training at all.

When single competence skills such as assertiveness, peer acceptance or peer interactions are used as interventions, conclusions are limited only to statements of improvement in very specific areas such as initiating social interactions among classmates, offering useful suggestions to peers, or using assertiveness techniques in classroom situations. It cannot be ascertained if an individual demonstrates flexibility of response or

generalizability to the varied demands of his or her environment. Specific competence skill interventions are useful when remediating cognitive and behavioral skills that may be lacking. Prevention demands more generalized strategies to educate and foster personal competence, and provide behavioral adaptation to one's environment.

Cowen (1977) urges that a general strategy for primary prevention be found that will train children in key competencies to maximize behavioral adaptation and interpersonal effectiveness. He states the importance of identifying these key competencies (cognitive, affective, creative and behavioral) which, if enhanced, have high potential for improving interpersonal transactions. It then becomes necessary to design age-specific curricula to teach these key competencies and develop valid and reliable measures to assess them. Finally, it must be determined if competence acquisition leads to improved social adaptation, and if the observed gains endure over time. One general strategy that meets the challenges offered by Cowen (1977) is interpersonal cognitive problem solving. It is a generalized approach to competence that children can use to handle personal needs and interpersonal transactions across a wide variety of environmental demands.

An extensive program for the assessment and training

of interpersonal cognitive problem solving has been conducted by five federally funded daycare centers in Philadelphia (Shure & Spivack, 1982). Problem-solving skills found to be instrumental in promoting positive interpersonal transactions and adaptation were: (a) an awareness of the variety of problems that affect interpersonal relations, (b) the capacity to produce alternative solutions to problems, (c) articulating the step by step design to carry out the solution to interpersonal problems, called means-end thinking, and (d) considering the consequences of one's actions. It was felt that these interpersonal cognitive problem-solving skills (ICPS) are not personality traits or parameters of general intelligence. Shure and Spivack (1980) used a covariance analysis with the Stanford-Binet Intelligence Test to show that a significant portion of the relationship between ICPS and behavior was independent of I.Q. The improvements they found in the quality of social adaptation were due to the training, and were not a function of intellectual functioning.

Interpersonal cognitive problem-solving skills emerge at different ages, depending on the child's capacity and the cognitive demands of the skill. One skill may play a more prominent role than the others in the social adaptation of the child at different ages. For instance, alternative solution thinking is most significant for

problem solving in young children of four and five years. As they grow older, consequential thinking becomes more significant. Causal thinking becomes more prominent for the older child and adult (Spivack, Platt & Shure, 1976).

Results of a study done in 1974, showed that children who displayed cognitive efficiency in conceptualizing alternative solutions exhibited healthy adjusted behaviors such as: (a) the ability to wait and not show incessant nagging or demanding behavior, and (b) the ability to show a reasonable degree of verbal and/or physical assertiveness toward others. Youngsters who were judged as impulsive or inhibited were classified as deficient in problem-solving skills, especially in alternative solution thinking (Spivack & Shure, 1974).

Based on the findings of earlier studies, Spivack and Shure designed a program to increase the interpersonal problem-solving ability of four and five year old children in preschool and kindergarten. The intervention consisted of a series of lessons in the form of games that the teacher plays with the children. Testing procedures included the Preschool Interpersonal Problem-Solving (PIPS) Test and What Happens Next Game (WHNG). To measure adjustment, teachers were asked to rate their children on the Hahnemann Pre-School Behavior Rating Scale (Spivack & Shure, 1974).

Results from all studies done by Spivack and Shure

with four and five year olds (Shure & Spivack, 1972; 1980; 1982; Spivack et al. 1976; Spivack & Shure, 1974), indicated that both alternative thinking and interpersonal behavior improved with problem solving training. A second problem solving skill, that of consequential thinking (i.e., "the ability to generate in one's mind what might happen as a direct result of carrying out an interpersonal act") was also found to be effective Spivack et al. 1976). A third problem solving assessment that measures cause and effect of an act showed no improvement for this age group. Results from all measures indicated that, regardless of sex, youngsters who were rated by teachers as well adjusted, who generated the most solutions, who were most liked by peers and were most likely to show concern and offer help to others had the ability to think of alternative solutions and their consequences, and in effect possessed adequate psychosocial competence (Shure & Spivack, 1982).

Other researchers (McClure, Chinsky & Larcen, 1978) modified Spivack and Shure's testing and/or training procedures to see if similar conclusions could be drawn about the efficacy of problem-solving training for elementary school children. Their findings regarding the impact of interpersonal cognitive problem-solving training have not been as supportive as those of Spivack and Shure. McClure et al. (1978) used the testing procedure

devised by Spivack and Shure (1974), but developed their own behavioral training program for use with third and fourth graders. McClure et al. (1978) wanted to clarify the theoretical and practical relationships between social problem solving, social performance and social competence in an elementary school setting. Four experimental conditions were used: (a) videotape modeling only, (b) videotape plus discussion, (c) videotape plus role-played exercises, and (d) a no-treatment control group. The researchers found that all the training conditions enhanced problem solving, and a behavioral skill, videotape modeling combined with role-play led to higher scores for a peer interaction measure. McClure et al. (1978) were supportive of Spivack and Shure's testing procedures.

Program curriculum similar to that of Spivack et al. (1976) but for older children, was developed by Weissberg, Gesten, Rapkin, Cowen, Davidson, Flores de Apodaca and McKim (1981). Third graders were the focus of a concentrated social problem-solving training program to improve interpersonal competence and social adjustment. The four month program contained 52 lessons, plus six parent training sessions. Urban and suburban parents were taught how to support their children in learning to use effective problem solving skills. Results indicated that trained children showed strong gains in alternative

solution thinking. Trained children tried more solution thinking. Trained children tried more solutions and anticipated alternative consequences more readily than did controls. However, only suburban children gained in adjustment behavior as measured by a teacher-rated scale. Teachers of urban lower class and mostly black children reported that some of the training techniques to produce alternative solutions also produced aggressive solutions and affected class discipline. The suburban school and the urban school used in the study each had one experimental and one control class. Comparisons were only made within and not between each of the selected schools.

A second study by the same group (Weissberg, Gesten, Carnrike, Toro, Rapkin, Davidson & Cowen, 1981) more closely monitored training and consultation efforts, expanded the curriculum, and added the incorporation of informal dialoguing throughout the day (putting into practice the lessons learned in the training). The subjects were all drawn from schools located in a predominantly white, suburban, lower middle class district. The classes were comparable in size and sociodemographics. One experimental group used the entire curriculum package which consisted of training in: (a) identifying problems, (b) deciding on a goal, (c) thinking before acting, (d) thinking of as many solutions as

possible, (e) thinking of each solution's consequences, and (f) when a good solution is found, trying it.

The second experimental group received videotaped lessons only. The control group received no special training. Pre and post measures included problem identification, simulated problem situations, locus of control and I.Q. measures. The Health Resources Inventory developed by Gesten (1976) was used by teachers to rate children's adjustment behavior. Children were then classified as well adjusted, overly aggressive or shy. Sociometric and self-esteem scales measured peer acceptance and self-esteem.

At posttest, subjects exposed to the complete curriculum improved more than both the videotape-only and controls in alternative and consequential thinking. Complete curriculum teachers reported decreases in problem behavior during the last part of the program. However, teacher rating scales failed to support those reports and actually showed that controls gained significantly on 5 of 10 adjustment measures. Several reasons were offered for these findings. The most obvious reason was that problem-solving training made children less adjusted. A second possibility was that the children were trying out new conflict resolution strategies which may have created temporary adjustment difficulties. The third explanation was, that in order to reduce the

likelihood of teacher bias, experimental teachers were asked to rate harshly. Follow-up findings confirmed the third explanation and perhaps the second one. The complete curriculum group did better than the controls on 7 of 10 teacher-rated adjusted factors.

To Shure and Spivack (1980), the impact of interpersonal cognitive problem-solving training on adjustment had been firmly established in previous studies. The researchers maintained that the clearest mediator of behavior in four and five year olds is the ability to conceptualize alternative solutions to interpersonal problems, followed by the ability to conceptualize consequences of actions. The new study spanned two years, and used more rigid statistical designs.

In the nursery year, ten daycare centers catering to black children were exposed to the intervention, while ten different centers, also catering to black children, served as controls. In the kindergarten year, half of the nursery controls were exposed to the intervention and all of the experimental groups from the year before received further training.

The format of the program was the same as in earlier studies. The goal of the intervention was to determine if the behavior of ICPS-deficient youngsters could be improved by teaching the problem solving skills. Pre and post measures were the same as in earlier studies

(Spivack et al. 1976), and behavioral adjustment was measured by the teacher-rated Hahnemann Pre-School Behavior Rating Scale. The teachers, unlike the testers were not blind to the children's training experience because they were teaching the skills. This methodological difficulty was controlled for by using an ANOVA-covariance design. An internal analysis within the trained group determined if those children who improved on separately tested ICPS scores also improved in overt behavior as rated by their teachers. It was felt that this method adequately controlled for ego involvement of teacher ratings done after the training period. The conclusion was that the training teachers rated objectively.

Results showed that the clearest mediator of behavior in four and five year old children is the ability to conceptualize alternative solutions to problems. Also significant is the ability to conceptualize potential consequences, just as earlier studies had shown.

The studies reviewed above suggest that interpersonal cognitive problem-solving (ICPS) training may be useful as a preventive measure. ICPS is an intervention that shows children how easy it is to use problem-solving skills in everyday situations. Mastery of the school environment is one of the major competence challenges for the growing child, and is a primary source

of prevention. The development of effective academic, self-concept and interpersonal skills are crucial during the early and middle childhood years (Ericson, 1963).

Shure and Spivack (1980) and Gesten et al. (1982) stressed that their studies showed ICPS skills to significantly generalize to real life situations for preschool, kindergarten and elementary school children. Reinforcement of ICPS training should be emphasized and supported by the use of dialoguing throughout the school day, whenever the opportunity is present for problem solving. Dialoguing puts into practice problem-solving techniques that were taught in the intervention exercises.

Weissberg et al. (1981) demonstrated empirically that ICPS training improved problem-solving ability, but could only show a linkage between ICPS training and mediation of behavior for a white suburban group in an elementary school population. Thus, their results could meet only one of Cowen's (1977) criteria, maximizing interpersonal effectiveness by means of problem-solving training.

Shure and Spivack were able to demonstrate empirically that ICPS training improved problem-solving ability and mediated adaptive behavior in middle and low SES groups and across various populations (Shure & Spivack, 1972; 1980; 1982; Spivack & Shure, 1974; Spivack et al. 1976). Their work with preschoolers in particular met

both of Cowen's (1977) criteria, maximizing interpersonal effectiveness and maximizing behavioral adaptation through problem-solving training.

Does ICPS training meet Cowen's (1977) challenge for a strategy sufficiently generalized to handle personal needs and interpersonal transactions across a wide variety of environmental demands? ICPS training can meet Cowen's (1977) challenge if it enhances competence skills other than problem solving. An examination of the training script devised by Spivack & Shure (1974) shows its generalized approach to competence. For instance, the early games present language concepts that are conducive to structuring logical thinking. Words such as "is", "a-some", "not", "or", "and", "same-different", "why-because", "if-then-not", and "happy-sad" are introduced to help young children learn to express their own thoughts, feelings and emotions, and understand the thoughts, feelings and emotions of others. Thus, concepts introduced in the training script not only enhance problem-solving abilities, but might also build actual cognitive and social competence skills.

At the same time, the script might help a child learn to judge his or her own competence (Perceived competence) in these skill areas. If perceived competence is viewed as a mediator of a person's intrinsic motivation to be effective (Harter & Pike, 1981), then

it is possible for a problem-solving intervention to foster a child's desire to be competent in a classroom environment.

Two hypotheses were tested in the present study: (a) interpersonal cognitive problem-solving training will enhance perceived and actual social and cognitive competence in children four years of age, and (b) the training program will foster the ability to demonstrate positive behavioral adaptation in preschool settings.

II

Method

Subjects

Twenty-five subjects were drawn from two daycare centers located within five blocks of each other. The experimental group consisted of 13 children, three female and ten male. Mean age was four years, seven months. Ethnic breakdown was nine white, three black and one hispanic. One child was in the low income group (below $6,000), six were in the low middle (below $10,000) and six in the middle income group (above $10,000). Demographic information was supplied by the teacher.

The control group consisted of six females and six males. Mean age was four years, three months. Ethnic breakdown included three white, five black and four hispanics. Three children were in the low income group (below $5,000), eight in the low middle (below $10,000) and one in the middle (above $10,000). Demographics were supplied by the teacher.

Although the demographic variables revealed non-equivalence at pretest, the decision was made to proceed using these two groups. One reason was that at pretest time, neither center had offered formal instruction in language concepts that could possibly taint the findings

that might be attributed to the training program. Another reason was that directors of other schools asked that their children be used as controls, and this would affect the validity of the study by ruling out random assignment.

Letters were sent to parents asking for their consent for their child's participation in the experiment (see Appendix for consent forms).

Design

A posttest-only design was used to compare the experimental group with the control group. However, pretest scores were analyzed to see if there were any significant between-group differences which would need to be considered in posttest analyses.

Assessment Measures

To test the first hypothesis that ICPS training enhanced actual and perceived social and cognitive competence, the Harter and Pike (1981) Pictorial Scale of Perceived Competence and Acceptance was used pre and post intervention for each child in the experimental and control groups. This scale also contained questions about perceived physical competence which were included in the testing procedure. Each child was individually queried about his or her cognitive, social

and physical competence using the pictures in the manual. The scale consists of a two-picture format with a four point ordinal scale for scoring. The child was shown the sample item from the booklet and if a boy, was instructed:

> "I have something here that's kind of like a picture game and it's called WHICH BOY IS MOST LIKE ME. I'm going to tell you about what each of the boys in the picture is doing."
> Sample: "In this one (examiner points to picture on the left) this boy is usually kind of happy, and this boy (examiner points to the picture on the right) is usually kind of sad. Now I want you to tell me which of the boys is most like (child's name)."
> After the child has pointed to the picture appropriate for him, the examiner points to the circles directly below that picture and emphasizes his choice further. The examiner will always start with the larger circle and proceed to the smaller circle. So, if the child points to the happy picture in response to the question concerning which is most like him, the examiner would say:
> "Are you always happy?" (pointing to larger circle)
> "Or are you usually happy?" (pointing to smaller circle)
> Occasionally a child will point to the middle of the two pictures and say that both are like him. The examiner should then say:
> "Yes, sometimes we do feel both ways, but if you had to pick which one of these boys feels the way you do most of the time, which one would you choose?"
> In some pictures there is a target child central to the description and designated by an arrow pointing to that child. Be certain that on these items, you point to that particular child. (Harter & Pike, 1981, p.8)

If a child refused to point to the circles or asked what the experimenter meant by the words usually or always, this examiner would then question, "Are you

happy all the time?" or "Are you happy most times?" or "Are you sad sometimes or all the time?", make the appropriate facial expressions, and mark the answer accordingly.

The plates for the girls were exactly like those used with the boys except that the pictures showed girls at work or play.

Factorial analyses (Harter & Pike, 1981) showed that the pictorial scale taps two dimensions: (a) general competence, measuring cognitive and physical skills, and (b) social acceptance concerning relationships with peers. The items comprising the first factor refer to doing well or performing competently. The items comprising the second factor have to do with making friends.

The numerical values for the subscale totals range from 6 (low perceived competence) to 24 (high perceived competence). A question about sleeping at a friend's house was deleted because it was not within the scope of school competence.

Two teacher-rated scales were also used, the Teacher Rating Scale of Child's Competence and Acceptance, and the Classroom Behavior Inventory. The Classroom Behavior Inventory (Schaefer & Aaronson, 1973) is a teacher-rated scale used to assess behavioral adaptation. The CBI taps classroom behavior in preschool and primary grades. Factor analysis has confirmed three dimensions of class-

room behavior according to the researchers: (a) verbal expressiveness and gregariousness vs. social withdrawal, (b) positive social behavior vs. negative social behavior, and (c) positive task oriented behavior vs. negative task oriented behavior. The CBI asks the teacher to rate the child on 60 items of behavior, from very much like to not at all like the child, based on his or her personal observations and experience with the child. The scores are then broken down into twelve categories ranging from verbal expressiveness to resentfulness. These subtotals are transferred to a three factor score section. The three totals are summed to obtain the total adjustment rating. The Classroom Behavior Inventory showed an internal consistency reliability of .90, as reported by Schaefer and Aaronson (1973).

Both the pictorial scale for children and the accompanying teacher scale are very new, and pilot data are currently being collected. Subscale reliabilities for physical and cognitive competence and social acceptance are based on only six items apiece and are somewhat attenuated by their small number. Harter and Pike (1981) attempted to balance feasibility and psychometric adequacy because of the known short attention span of young children. (see Appendix for scales and scoring sheet).

Intervention

The format of the intervention was a script developed by Spivack and Shure (1974) which teachers used to increase the interpersonal problem-solving ability of their children, enhance children's competence skills, and aid in promoting behavioral adaptation.

The program consisted of a carefully sequenced series of lessons taught in the form of games. The original script called for lessons to run from five minutes in the beginning to twenty minutes by the end. The intervention lasted for approximately forty days. To be consistent with the storytime control group in which story and discussion lasted about fifteen minutes, the training script was modified by combining the early games and shortening some of the exercises in the later ones. For example, it was determined by the researcher in consultation with the experimental teacher that word concepts such as A-SOME, NOT, OR, and AND were known by the children, and the games using these concepts could be done together. Lessons that introduced the concepts of WHY and BECAUSE were taught on two separate days and the games were listed as Game 22: Why-Because, and Game 23: More Why-Because. This arrangement gave important concepts such as building solution thinking, and consequential and causal thinking the full impact they deserved.

The children sat on the floor in a semi-circle for both the intervention and storytime. The Classroom Behavior Inventory pretest factor of social withdrawal was used to determine the quiet children. Two children were found and given extra attention in the experimental group. They were encouraged to verbalize answers by either receiving a pat on the back or a hug for a verbal answer. If some children did not want to verbalize, they were then asked to point to a picture or use some kind of movement, such as tapping a foot, to show that they knew the answer. Every child was given either verbal praise, a handshake or a pat on the back to praise him or her for a job well done. Even if a child acted out or walked away during the exercises, he or she was still given some form of praise.

It was not necessary for the teacher to memorize the script. She placed it on her lap and read from that position. Each name in the script was replaced with a child's name from the group. If the group became restless, they did some movement exercises or games and then returned to the script games. On two occasions the teacher reported that she had to stop for the day and continue on the following day where she had left off. She said that the cause was the expected celebration of two birthdays.

The training script by Spivack and Shure (1974) was

devised to develop skills in language, listening and paying attention (see Appendix for excerpts of the training script). These basic concepts are necessary for the end result of seeing alternative solutions and their consequences, as well as for understanding the meaning of a problem. For example, in one problem Jimmy wanted Ralph to help him put the toys away. The teacher showed a picture of two boys to the class and asked, "What does Jimmy want Ralph to do?" The children then responded. She asked if it was fair for Jimmy to clean up all by himself and the children responded. To elicit alternative responses she asked, "What can Jimmy DO so Ralph will help him put the toys away. She repeated a child's response, put it on the chalkboard and said, "That's way number one. Can anybody think of way number two?" She repeated the responses, "He can _____ OR _____. What else can he do? What else can he say?" To classify enumerations she would say, "Can you think of an idea that is DIFFERENT from (giving something, hurting someone, or telling someone)?"

The early games taught to the experimental group had as their goal encouraging children to use language skills as a tool to solving interpersonal problems, thinking of alternatives (OR) and thinking of negatives (NOT). Thus the words SAME and DIFFERENT became important in helping the children name new alternatives and discriminate be-

tween them. Some of the games simultaneously focused on listening and paying attention, thus providing the first step in the ability to absorb bits of information. The games also helped children to think things through as opposed to jumping to quick and perhaps faulty conclusions.

The later games presented simulated problems that could be solved by using previously learned concepts. The children were encouraged to think in terms of: What can I do? What might happen if I do that? What else can I do?

Procedure

Children in the experimental and the control groups were individually tested on the Pictorial Scale of Perceived Competence and Acceptance for Young Children during the second week of November, 1982. They were posttested during the second week of February, 1983. The teachers of both groups filled out the Teacher Rating Scale of Child's Competence and Acceptance and the Classroom Behavior Inventory twice, once for pre and once for post intervention.

The intervention for the experimental group was based on the script adapted from Spivack and Shure (1974). It was administered by the teacher. On two occasions (one in each group), the researcher acted as an aide to observe and assist the teacher.

The subjects in the control school received no

special training. The teacher used the fifteen minute storytime period to discuss feelings and behavior. She would read a story, and discuss the pictures with the children. On one occasion, the teacher asked some of the children to demonstrate what they would do if someone pushed them off a bicycle. She ended the discussion period early, because the children became rambunctious. On an another occasion it was noticed that the children became frequently distracted and would walk away from the group or even ask totally irrelevant questions. On the other hand, the experimental group responded eagerly to the games, fewer children walked away from the group, and no irrelevant questions were asked of the teacher. These observations were noted by the teachers and given to the researcher after the intervention.

After posttesting was completed, the experimental children were given certificates of merit in problem solving.

III

Results

It was noted earlier that a breakdown of the demographic variables revealed nonequivalence for the groups used in this study. However, because neither group had been given formal instruction in language concepts at pretest, the decision was made to proceed with the intervention.

To reinforce the decision to use demographically nonequivalent groups, t-tests were applied to all group pretest scores to determine if the groups differed on these dimensions. The t-tests for the pretest group socres of the child-rated Pictorial Scale of Perceived Competence and Acceptance were as follows: (a) child-rated cognitive competence, $t(24) = .26$, ns; (b) social competence, $t(24) = 1.15$, ns; (c) physical competence, $t(24) = .50$, ns; and (d) total competence, $t(24) = .31$, ns. None of the child-rated t-scores was found to be significant, thus indicating absence of significant between-group differences on the pretest measures.

For the Teacher Rating Scale of Child's Competence and Acceptance scores, the pretests were as follows: (a) teacher-rated cognitive competence, $t(24) = .35$, ns; (b) physical competence, $t(24) = .35$, ns; and (c) total competence, $t(24) = 1.29$, ns. All were nonsignificant.

However, the teacher-rated social competence pretest comparison was significant, $t(24) = 2.07$, $p < .05$. Because of this, an analysis of covariance (ANCOVA) was used for teacher social competence scores at posttest, with the pretest as covariate.

For the teacher-rated Classroom Behavior Inventory, pretest comparisons for all factors were nonsignificant. Factor I, $t(24) = 1.19$, ns; Factor II, $t(24) = 1.50$, ns; and Factor III, $t(24) = 1.48$, ns; all nonsignificant. However, a significant pretest difference was found on the between-group scores of the CBI pretest total, $t(24) = 2.07$, $p < .05$. An ANCOVA was used at posttest for this variable, with the CBI pretest total as covariate. A presentation of means and standard deviations is shown for both of the teacher-rated measures.

Table 1: Means and Standard Deviations for Teacher-Rated Pretest Scores on the Teacher Rating Scale of Children's Competence and Adjustment and the Classroom Behavior Inventory

Teacher Rating Scale of Children's Competence and Acceptance (Pretest only)	Exper. M	Exper. SD	Control M	Control SD
Teacher Cognitive Competence Subscale	2.9	.72	3.0	.40
Teacher Social Competence Subscale	3.1	.71	3.6	.39
Teacher Physical Competence Subscale	2.7	.51	2.8	.45
Teacher Total Competence Scale	8.8	1.5	9.4	.90

Classroom Behavior Inventory	Exper M	Exper SD	Control M	Control SD
Factor I Verbal Expressiveness vs. Social Withdrawal	9.3	6.6	12.8	8.1
Factor II Positive Social Behavior vs. Social Hostility	6.3	5.3	9.0	3.5
Factor III Positive Task-Oriented Behavior vs. Negative Task-Oriented Behavior	-3.5	7.2	1.3	9.0
CBI Total Scores	12.0	13.3	23.2	13.6

The data analyses were guided by the following two questions: (a) how effective was the Shure and Spivack training program in enhancing a child's view of his or her cognitive, social, physical and general competence (the sum total of the other three factors)?, and (b) how effective was the training in promoting positive behavioral adaptation?

First, how effective was the training in enhancing a child's perception of his or her cognitive, social, physical and general competence?

Analyses of variance (ANOVAS) were performed on the child-rated perceived competence posttest scores to see if the groups differed significantly. There were no significant posttest differences on child-rated cognitive competence, $F(1,23) = 3.04$, ns; social competence, $F(1,23) = 4.16$, ns; physical competence, $F(1,23) = .16$, ns; or total competence, $F(1,23) = .14$, ns. In summary, no significant differences were found between the groups at posttest on any of the child-rated measures.

Table 2: Analysis of Variance of Children's Mean Post-test Scores for the Pictorial Scale of Perceived Competence for Young Children

Dependent Measures	Exper		Control			
	M	SD	M	SD	F	p
Child Cognitive Competence Subscale	3.6	.42	3.3	.53	3.0	ns
Child Social Competence Subscale	3.0	.92	3.6	.44	4.2	ns
Child Physical Competence Subscale	3.1	.40	3.0	.38	.7	ns
Child Total Competence Scale	9.6	1.5	9.8	.84	.14	ns

Three ANOVAS and one ANCOVA were performed on the teacher-rated competence posttest scores. No significant posttest differences were found on teacher-rated cognitive competence, $F(1,23) = .20$, ns; or physical competence, $F(1,23) = 2.17$, ns. However, the teacher-rated total competence posttest between-group scores were significant, $F(1,23) = 7.0$, $p < .05$. The ANCOVA was done on the teacher-rated social competence posttest scores with pretest as covariate, because of significant pretest between-group differences. At posttest, there still were significant between-group differences, $F(1,23) = 10.69$, $p < .05$. In summary, two of the teacher-rated competence measures showed significant F's at posttest, the social competence measure and the total competence measure.

Table 3: Analysis of Variance of Teacher's Mean Posttest Scores for Three of the Tests on the Teacher Rating Scale of Child's Competence and Acceptance. Analysis of Covariance for the Mean Posttest Scores for the Social Competence Subscale

Dependent Measures	Exper		Control			
	M	SD	M	SD	F	p
Teacher Cognitive Competence Subscale	3.4	.44	3.4	.53	.20	ns
Teacher Social Competence Subscale	2.9	.55	3.7	.35	10.69[1]	.05
Teacher Physical Competence Subscale	2.7	.35	2.9	.27	2.17	ns
Teacher Total Competence Scale	9.0	1.5	20.2	.90	7.0	.05

[1]Analysis of Covariance F

ANCOVAS were performed on all factors and the total of the teacher-rated Classroom Behavior Inventory (CBI) posttest scores using the pretests as covariates. This was done because the CBI Total had shown significant pretest between-group differences and the Total is the sum of the three factors. Factor I (verbal expressiveness vs. social withdrawal) showed no significant differences between groups at posttest, $F(1,23) = 1.3$, ns; Factor II (positive social behavior vs. social hostility) showed no significant differences, $F(1,23) = .08$, ns; Factor III (positive task-oriented behavior vs. negative task-oriented behavior) didn't show any between-group differences, $F(1,23) = .17$, ns. Finally, the CBI total showed no between-group differences, $F(1,23) = .25$, ns. Clearly, any significant differences that were found on the total scores at pretest disappeared at posttest.

Table 4: Analysis of Covariance of Teacher-Rated Classroom Behavior Inventory Posttest Scores With Pretest as Covariate

Dependent Measures	Exper		Control			
	M	SD	M	SD	F	p
Factor I Verbal Expressiveness vs. Social Withdrawal	7.0	7.0	11.6	6.7	1.3	ns
Factor II Positive Social Behavior vs. Social Hostility	7.7	3.8	7.0	5.1	.08	ns
Factor III Positive Task-Oriented Behavior vs. Negative Task-Oriented Behavior	-1.1	7.0	4.4	9.7	.17	ns
CBI Total Scores	13.5	13.2	23.0	15.9	.25	ns

IV

Discussion

The first hypothesis stated that interpersonal problem-solving (ICPS) training would enhance perceived social and cognitive competence in young children. ICPS training did not appear to have any effect on children's perceptions of general, cognitive, social or physical competence as measured by the Harter and Pike Pictorial Scale of Perceived Competence and Accpetance for Young Children.

One possibility for these results is that ICPS training is not a sufficiently generalized strategy to increase a preschooler's self-perception of his or her social relationships, or academic and physical abilities. For instance, some of the children in both groups were asked to demonstrate as well as state their confidence in the different skill areas suggested in the Harter and Pike (1981) manual. The disparity between statement and demonstration became evident when children who sang the alphabet song believed that they knew the alphabet, but were not able to identify individual letters. Children who stated that they could skip, only demonstrated that they could hop. Nevertheless, ICPS training can still be useful for promoting personal and interpersonal problem-solving development in young children (Shure &

Spivack, 1982).

It is also possible that the design of the instrument could account for the lack of differences on the child-rated measures. For instance, the testing instrument was modified because certain pictures were not applicable for young children. One picture showed children sleeping at other children's homes. A child in the experimental group spoke for the others when stating that she was too young to sleep at other children's houses. Other pictures that illustrated games and puzzle pieces seemed too complicated for four year old children.

Circles that were placed under each picture to further clarify answers were not very effective. It was easier for the tester to ask each child, "all the time?", "sometimes?", or "not ever?", in place of using the circles. Certain revisions to the manual are indicated if it is to be used with young children: (a) pictures should be simply illustrated, (b) circles beneath the pictures should be eliminated, and (c) inappropriate questions should be deleted.

Finally, it is even questionable whether perceived competence is a valuable competence measure for preschool children. If cognitive appraisal of performance is the major source of perceived competence as Wheeler and Ladd (1982) suggest, then it is inappropriate to question younger children on this measure. It appears that they

tend to overestimate their abilities. This seemed to be the case when the tester compared performance and statement on some of the skills asked for in the manual and found them not to be the same. It appears more likely that realistic appraisals of competence might be a better measure of competence for older children.

The first hypothesis also predicted that actual cognitive and social competence in young children would be enhanced by ICPS training. No support was found for the enhancement of cognitive competence in young children that could be attributed to ICPS training.

As for social competence at posttest, teacher-rated social competence scores showed significant between-group differences with pretest differences controlled. However, the significant results could not be attributed to ICPS training. An examination of the mean scores from pre to post for the experimental group showed a slight drop, pre $\bar{X}$ = 3.1, post $\bar{X}$ = 2.9, and a nonsignificant increase for controls, pre $\bar{X}$ = 3.6, post $\bar{X}$ = 3.7. Though ICPS training may have had a negative effect on the social competence of the experimental children as rated by their teacher, it is more likely that the mean scores merely reflect the enlarged difference between the groups at posttest.

The teacher-rated total competence posttest scores also showed significant between-group differences which

could not be attributed to ICPS training. An examination of the mean scores for both groups pre to post showed only an increase of .2 for the experimental group, pre $\bar{X}$ = 9.4, post $\bar{X}$ = 9.0, and .7 for the control group, pre $\bar{X}$ = 9.4, post $\bar{X}$ = 10.1. Thus, it may be assumed that significant between-group differences on the total competence posttest scores could be due to the significant social competence posttest scores.

As with the child-rated perceived competence measures, the teacher-rated actual competence measures asked some inappropriate questions. For instance, the teacher was asked to rate if the child slept or ate at other children's houses. These questions were deleted, because the teacher did not have firsthand knowledge of the answers.

The findings in the study thus far seem to rule out the likelihood that ICPS training is generalizable to either actual (teacher-rated) or perceived (child-rated) cognitive and social competence for young children.

The second hypothesis predicted that the training program would promote behavioral adaptation. In the Spivack and Shure studies, behavior was rated by the Hahnemann Preschool Behavior Rating Scale. Because this scale was not available to the researcher, the Classroom Behavior Inventory was substituted. Because at pretest the CBI total scores were found to show significant between-group differences, an analysis of covariance was

done for all factors and the total scores. Posttest findings showed no differences between the groups, on any of the factors or total scores, that could be attributed to interpersonal cognitive problem-solving training. This raises the concern that perhaps there is no relationship between problem solving and behavioral adaptation. Yet, Shure and Spivack (1972; 1980; 1982) have maintained that a definite link exists between problem solving and behavioral adjustment (adaptation). They concluded that behavioral adjustment in classroom environments increased as a result of interpersonal cognitive problem-solving training for their preschool populations. It is also possible that the Classroom Behavior Inventory is not as sensitive an instrument to behavioral adjustment as is the Hahnemann Preschool Behavior Rating Scale.

To check these two possibilities--that there is no relationship between problem solving and behavioral adjustment, and that the instrument was not sufficiently sensitive to change-- two studies were recently conducted by other investigators (Rickel & Burgio, 1982; Rickel, Eshelman & Loigman, 1983). These researchers attempted to replicate the work of Spivack and Shure. Social competencies in four-year-old, lower income, nonwhite preschool children were examined. The researchers used the exact Shure and Spivack training script and identical testing instruments. Neither study found the predicted

relationship between problem-solving thinking and adjustment. Because this assumed relationship was the core of the Shure and Spivack intervention, there is justifiable concern as to the validity of using cognitive problem-solving training to improve behavior adjustment.

Rickel and Burgio (1982) suggested that the supposed link between interpersonal cognitive problem-solving training and positive behavioral adaptation depended upon teacher participation in the program and subsequent rating of their children's behavior. When a follow-up study (Rickel et al. 1983) used teachers who were blind to the purpose of the study, the assignment of children to groups, and the content of the treatment sessions, the effect was not apparent. Therefore, it is plausible to assume that the problem lies with the linkage between ICPS training and behavioral adaptation, and not with the testing instrument used in this study. A future study using both instruments would affirm or disporve this supposition.

The underlying assumption throughout this study is that techniques in competence training are beneficial for preschool and elementary school children. Clearly, the challenge is to find appropriate measures of competence, delineate variables which contribute to competence, find interventions to foster competence, and demonstrate that competence can promote behavioral adaptation

by preventing problems and enhancing coping skills. Until this is done, Cowen's (1977) quest for a generalized strategy to maximize interpersonal and personal effectiveness and maximize behavioral adaptation remains just a desirable goal.

V

Appendix

October 28, 1982

CONSENT FORM

Dear Parent,

Roselle Friedman, a graduate student with the Department of Psychology at Florida International University, is researching the effectiveness of a problem-solving training program designed to enhance a child's sense of competence in his or her interpersonal relationships with peers and teachers. For eight years now, children enrolled in this program in the Philadelphia, PA area have successfully demonstrated greater ease and confidence in dealing with others.

A test will be administered both pre and post training to determine how your child feels about his or her own competence skills. Your child will be asked such questions as "How well do you put a puzzle together?"

The training program will consist of playing short games that explore feelings and actions. The program will last approximately 15 minutes each day for about six weeks. There are no known risks or discomfort from participation in this program.

Consent for your child's participation can be withdrawn at any time without any prejudice to your child.

All information pertaining to your child will be anonymous and confidential. If more information is desired, call Roselle Friedman, 864-2508. Please return this form as soon as possible.

Thank you.

_____I GIVE MY CONSENT

_____I DO NOT GIVE MY CONSENT

_____ _____

NAME OF CHILD NAME OF PARENT

October 28, 1982

CONSENT FORM

Dear Parent,

Roselle Friedman, a graduate student with the Department of Psychology at Florida International University, is researching the effectiveness of a story telling program for enhancing a child's sense of competence in his or her interpersonal relationships with peers and teachers.

A test will be administered both pre and post story-time to determine how your child feels about his or her own competence skills. Your child will be asked such questions as, "How well do you put a puzzle together?"

The program will consist of listening to stories and having a discussion about them afterwards. It will last approximately 15 minutes each day for about six weeks. There are no known risks or discomfort from participation in this program.

Consent for your child's participation can be withdrawn at any time without any prejudice to your child. All information pertaining to your child will be anonymous and confidential. If more information is desired, call Roselle Friedman, 864-2508. Please return this form as soon as possible.

Thank you.

_____I GIVE MY CONSENT

_____I DO NOT GIVE MY CONSENT

_____ _____

NAME OF CHILD NAME OF PARENT

The Pictorial Scale of Perceived Competence and Acceptance for Young Children

Item order description	Cognitive Competence	Peer Acceptance	Physical Competence
1. good at puzzles	1_____		
2. has lots of friends		2_____	
3. good at swinging			3_____
4. gets stars on papers	4_____		
5. stays overnight at friends		5_____	
6. good at climbing			6_____
7. knows names of colors	7_____		
8. has friends to play with		8_____	
9. can tie shoes			9_____
10. good at counting	10_____		
11. has friends on playground		11_____	
12. good at skipping			12_____
13. knows alphabet	13_____		
14. gets asked to play by others		14_____	
15. good at running			15_____
16. knows first letter of name	16_____		
17. eats at friend's house		17_____	
18. good at hopping			18_____
Column Subscale Total	_____	_____	_____
Column Subscale Mean	_____	_____	_____

Teacher's Rating Scale of Child's Competence and Acceptance

Instructions: Place the appropriate number indicating how true the statement is for this child.

1=not very true, 2=sort of true, 3=pretty true, 4=really true

Item order description	Cognitive Competence	Peer Acceptance	Physical Competence
1. good at puzzles	1_____		
2. has lots of friends		2_____	
3. good at swinging			3_____
4. gets stars on papers	4_____		
5. stays overnight at friend's house		5_____	
6. good at climbing			6_____
7. knows names of colors	7_____		
8. has friends to play with		8_____	
9. can tie shoes			9_____
10. good at counting	10_____		
11. has friends on the playground		11_____	
12. good at skipping			12_____
13. knows alphabet	13_____		
14. gets asked to play by others		14_____	
15. good at running			15_____
16. knows first letter of name	16_____		
17. eats at a friend's house		17_____	
18. good at hopping			18_____
Column Subscale Total	_____	_____	_____
Column Subscale Mean	_____	_____	_____

CATEGORIES AND CODING INFORMATION FOR

SCHAEFER-AARONSON SYSTEMS

CLASSROOM BEHAVIOR INVENTORY

(Form for Preschool to Early Primary)

Instructions: Please describe as accurately as possible how the student behaves in your classroom by circling any of the four responses to each question.

	Very much like	Some-what like	Very little like	Not at all like
1. Will readily talk with you about his toys, or what he is doing.	4	3	2	1
2. Moves from one area of the room to another frequently.	4	3	2	1
3. Takes up for and tries to protect one whom others pick on.	4	3	2	1
4. Plays alone unless he's induced to play with others.	4	3	2	1
5. Works a long time to finish painting a picture, solving a puzzle, etc.	4	3	2	1
6. Gets annoyed for trivial reasons.	4	3	2	1
7. Does not wait for others to approach him, but makes the first friendly move.	4	3	2	1
8. Frequently does not finish a project or game because he has lost interest.	4	3	2	1
9. Will not take toys or equipment another child is using.	4	3	2	1
10. Has a low or unsteady voice when speaking before a group.	4	3	2	1

CLASSROOM (continued)

	Very much like	Some-what like	Very little like	Not at all like
11. Centers his attention on what he is doing; and nothing seems to distract him.	4	3	2	1
12. Sits and sulks if he has been reproved.	4	3	2	1
13. Begins a conversation with another child who moves near him.	4	3	2	1
14. Frequently is getting up from seat or turning and twisting.	4	3	2	1
15. Brings materials, toys to another.	4	3	2	1
16. Rarely joins in activities with others of his own accord.	4	3	2	1
17. If one effort to do a job is unsuccessful, will try again.	4	3	2	1
18. Whines and complains if others won't give him his way.	4	3	2	1
19. Seeks others out to get them to play with him.	4	3	2	1
20. Often does not complete a task or errand because other things have captured his attention.	4	3	2	1
21. Is careful not to disturb an activity of another.	4	3	2	1
22. Will not look an adult in the face-will turn his head or look down.	4	3	2	1

CLASSROOM (continued)

	Very much like	Some-what like	Very little like	Not at all like
23. Remains quietly at work, while others around make noise.	4	3	2	1
24. Remains angry a long time after a quarrel.	4	3	2	1
25. Always has something to say in group discussion.	4	3	2	1
26. Will not sit still and listen to a story for very long.	4	3	2	1
27. Readily forgives those who have picked on him, taken his things, etc.	4	3	2	1
28. Prefers working alone, leaves an activity if other children join him.	4	3	2	1
29. Is reluctant to leave a project he has begun.	4	3	2	1
30. Is inclined to flare up if he's picked on.	4	3	2	1
31. Joins a group of his own accord (during games, free time, etc.)	4	3	2	1
32. Any outside activity or noise can distract his attention from what the teacher is saying.	4	3	2	1
33. Awaits his turn willingly.	4	3	2	1
34. Becomes less effective and skillful in his work when being observed.	4	3	2	1
35. Becomes so absorbed in what he is doing, he may not hear you talk to him.	4	3	2	1

CLASSROOM (continued)

	Very much like	Some-what like	Very little like	Not at all like
36. Sulks and won't participate in activities when not given his own way.	4	3	2	1
37. Likes to talk about everything that happens to him.	4	3	2	1
38. Squirms, taps his foot or fingers, or is constantly changing his position.	4	3	2	1
39. Smiles at or greets any child he meets.	4	3	2	1
40. Usually is engaged in a solitary individual activity.	4	3	2	1
41. Nearly always sticks to tasks until they are finished.	4	3	2	1
42. Frequently gets in a temper if he can't have his own way.	4	3	2	1
43. Approaches others and invites them to play or work with him.	4	3	2	1
44. Centers attention only briefly on what he is doing, then starts something else.	4	3	2	1
45. Lets others go first, holds doors open, tries not to block the way of others.	4	3	2	1
46. Speaks to the teacher in low, uncertain tones with much effort.	4	3	2	1
47. Gives undivided attention to a toy or activity that catches his interest.	4	3	2	1
48. Angry when required to wait his turn or share with others.	4	3	2	1

CLASSROOM (continued)

	Very much like	Somewhat like	Very little like	Not at all like
49. Is among the first to make a comment or ask a question about class activities.	4	3	2	1
50. Likes to run about aimlessly.	4	3	2	1
51. Speaks soothingly, pats or comforts a child who is hurt or unhappy.	4	3	2	1
52. Goes off by himself when others are gathering to sing or play together.	4	3	2	1
53. Will work with a puzzle or other activity for a long period of time, trying to get it right.	4	3	2	1
54. Gets impatient and unpleasant if he can't get what he wants when he wants it.	4	3	2	1
55. Mixes freely with a group and enjoys group companionship.	4	3	2	1
56. Easily distracted from own work by the various activities of others.	4	3	2	1
57. Is quick to say "thank you" and show appreciation.	4	3	2	1
58. Shows less strain and is more relaxed if you do not notice him.	4	3	2	1
59. Quickly becomes lost in his own work.	4	3	2	1
60. Slow to forgive when offended.	4	3	2	1

THE TRAINING SCRIPT SAMPLE

This is a sample of the script that the teacher used with the experimental group. She placed the script in her lap and read from it while talking with the children.

Game 1 - IS

NOW WE'RE GOING TO PLAY A GAME. ARE YOU READY? OK. WATCH ME VERY CAREFULLY.

JOHNNY IS (stress the underlined word) A BOY. IS JOHNNY A BOY? Children reply. YES, JOHNNY IS A BOY. Repeat in quick tempo with each child in the group. If a child does not respond, ask him again and shake his hand and say "good" when he does respond. If a child is teasing by responding with the opposite answer, say: JOHNNY, ARE YOU A BOY? If he continues to tease, just say: OK. I KNOW YOU'RE TEASING ME.

If a child still does not respond, ask him again. If he responds, shake his hand and say: GOOD! If not, encourage him to just shake his head to the question, "Is Johnny a boy?" Then shake his hand and reinforce. If he still does not respond, encourage him to shake his head with you. Say: LET'S SHAKE OUR HEAD TOGETHER. Shake your head dramatically.

NOW WATCH ME CAREFULLY. WHEN I POINT TO SOMEONE WHO IS A GIRL, RAISE YOUR HAND LIKE THIS. Teacher raises hand. WHAT ARE WE GOING TO DO WHEN I POINT TO A GIRL?

Children reply. THAT'S RIGHT, RAISE OUR HANDS. Go through motion.

WHEN I POINT TO A BOY, TAP YOUR KNEE LIKE THIS. Teacher taps knee. WHAT ARE WE GOING TO DO WHEN I POINT TO A BOY? Children reply. THAT'S RIGHT. TAP OUR KNEE. Go through motion.

OK. NOW WATCH. Point to a child and call him by name. JOHNNY. Wait for children to tap. GOOD, WE TAPPED OUR KNEE BECAUSE JOHNNY IS A BOY. Continue with each child in the group. If a child does not join the group, ask him again. If he still does not respond, encourage him to tap his knee with you. Say: LET'S TAP OUR KNEE TOGETHER. GOOD, WE ARE TAPPING OUR KNEE BECAUSE JOHNNY IS A BOY. Do not push the child further at this time.

Game 2: A-SOME

NOW WE ARE GOING TO POINT TO SOME GIRLS.

OK. ARE YOU READY? NOW WATCH ME VERY CAREFULLY.

JOHNNY AND BOBBY ARE SOME BOYS. ARE JOHNNY AND BOBBY SOME BOYS? YES (nodding head), JOHNNY AND BOBBY ARE SOME BOYS. PETER IS A BOY. PETER AND RALPH ARE SOME BOYS. IS PETER A BOY OR IS PETER SOME BOYS? YES, PETER IS A BOY. Continue with each child in the group, sometimes in pairs (some) and sometimes with one (a) child.

NOW WATCH ME CAREFULLY. I AM GOING TO POINT TO

SOME GIRLS. WHEN I POINT TO SOME GIRLS, RAISE YOUR HAND LIKE THIS. Teacher raises hand. WHAT ARE WE GOING TO DO WHEN I POINT TO SOME GIRLS? Children respond. RIGHT, RAISE YOUR HANDS LIKE THIS.

WHEN I POINT TO SOME BOYS, WE WILL TAP OUR KNEE LIKE THIS. Teacher demonstrates. WHAT ARE WE GOING TO DO WHEN I POINT TO SOME BOYS? Children respond. RIGHT, WE'RE GOING TO TAP OUR KNEE. Go through motion again.

OK. NOW WATCH. Point to two children and call them by name, JOHNNY AND JIMMY. Children respond. GOOD, WE TAPPED OUR KNEE BECAUSE JOHNNY AND JIMMY ARE BOYS. SALLY AND MARY. WHAT DO WE DO? Children respond. GOOD, WE RAISED OUR HAND, BECAUSE SALLY AND MARY ARE GIRLS. Switch between pairs of boys and girls in random order.

If a child does not respond say: JOHNNY, WHAT DO WE DO WHEN WE (point) TO SOME GIRLS? Encourage him to raise his hand with yours. When he responds say "good" and shake his hand.

Game 13: MORE HOW CAN WE TELL?

LET'S TALK ABOUT OUR EYES SOME MORE. SHOW ME YOUR EYES. POINT TO YOUR EYES. WE CAN SEE WITH OUR EYES. WHAT CAN WE DO WITH OUR EYES? Group replies. YES, WE CAN SEE WITH YOUR EYES.

NOW CLOSE YOUR EYES. KEEP THEM CLOSED. COVER YOUR EYES WITH BOTH HANDS. CAN YOU SEE WITH YOUR EYES NOW?

Group replies. NO, YOU CANNOT SEE WITH YOUR EYES WHEN THEY ARE CLOSED.

NOW LET'S TALK ABOUT OUR EARS. POINT TO YOUR EARS. WE CAN HEAR WITH OUR EARS. WHAT CAN WE DO WITH OUR EARS? Group replies. YES, WE CAN HEAR WITH OUR EARS.

CAN WE SEE WITH OUR EARS? Group responds. NO, WE CANNOT SEE WITH OUR EARS. WE CAN HEAR WITH OUR EARS. WHAT CAN WE DO WITH OUR EYES? YES, WE CAN SEE WITH OUR EYES.

I AM LAUGHING. HOW CAN YOU TELL I AM HAPPY? If response is "you are laughing" say: HOW CAN YOU TELL I AM LAUGHING? DID YOU SEE ME WITH YOUR EYES? Let children answer. DID YOU HEAR ME WITH YOUR EARS? Let children answer.

YES, YOU CAN TELL IN TWO WAYS. WAY NUMBER ONE (show one finger) YOU CAN TELL I'M HAPPY IS TO SEE ME WITH YOUR EYES. Point to eyes. YOU CAN SEE I AM LAUGHING. WAY NUMBER TWO (show two fingers) YOU CAN TELL I'M HAPPY IS THAT YOU CAN HEAR ME WITH YOUR EARS. Point to ears.

MY EYES CAN _____. Point to eyes.

MY EARS CAN _____. Point to ears.

DO MY EARS AND EYES DO THE SAME THING? Group responds. GOOD, MY EYES CAN SEE. MY EARS CANNOT _____. Children reply. YES, MY EARS CAN HEAR. MY EYES CANNOT _____. Children reply.

Cover your face with a big book or sheet of paper

and laugh dramatically. AM I HAPPY OR AM I SAD? Children respond. HOW CAN YOU TELL? Keep book over your face. If the children say: "you're laughing", follow with HOW CAN YOU TELL I AM LAUGHING? If the children do not say they can hear you, follow with: CAN YOU SEE MY FACE? let group reply. NO, YOU CANNOT SEE MY FACE NOW. CAN YOU HEAR ME WITH YOUR EARS? Take the book away.

NOW WE HAVE TWO (show two fingers) WAYS TO FIND OUT IF SOMEONE IS HAPPY. ONE WAY IS TO SEE WITH OUR _____. Keep repeating slowly until the children say "see with our eyes".

WAY NUMBER TWO IS TO HEAR WITH OUR _____. Keep repeating slowly until the children say "hear with our ears".

NOW WE HAVE TWO WAYS TO TELL IF SOMEONE FEELS HAPPY OR SAD. CAN ANYONE THINK OF A THIRD WAY TO FIND OUT IF I'M HAPPY? If no new idea is given, end the lesson. If a child offers, "ask" encourage to child to ask you.

PROBLEM SOLVING SKILL BUILDING

Problem 3: SOLUTION AND CONSEQUENCES PAIRING

A girl on a bike wants a boy on a wagon to get out of her way. Use a picture of a girl on a bike and a boy with a wagon.

THE PROBLEM TODAY IS: THIS GIRL ON THE BIKE (point) WANTS THIS BOY (point) ON THE WAGON TO GET OUT OF HER WAY.

WHAT IS THE PROBLEM? WHAT DOES THE GIRL WANT THE BOY TO DO? Children repeat the problem.

TODAY WE'RE GOING TO PLAY OUR GAME IN A NEW WAY. I'M GOING TO ASK YOU FOR ONE IDEA. I'M GOING TO WRITE IT OVER HERE. Draw a line down the middle of the board and point dramatically to the left side of the line.

OK. WHO HAS AN IDEA OF WHAT THIS GIRL (point) CAN DO SO THIS BOY (point) WILL GET OUT OF THE WAY?

After one solution has been offered say: OK. NOW LISTEN CAREFULLY. THIS IS A HARD QUESTION IF (repeat the solution) THEN WHAT MIGHT HAPPEN NEXT? If a consequence is not offered, follow with questions such as: WHAT MIGHT B DO (SAY) IF _____? As soon as one consequence is offered say: OK, THAT MIGHT HAPPEN. I'M GOING TO PUT ALL THE THINGS THAT MIGHT HAPPEN NEXT OVER HERE. Point dramatically to the right side of the line.

NOW LISTEN AGAIN. I'M BACK TO THIS SIDE OF THE BOARD (point to the left side of the line). NOW WE NEED AN IDEA AGAIN. SOMETHING THE GIRL CAN DO OR SAY SO THE BOY WILL GET OUT OF THE WAY. RALPH, WHAT'S YOUR IDEA? Let Ralph respond. OK, IF THE GIRL (point to the girl and repeat Ralph's idea), THEN WHAT MIGHT HAPPEN NEXT? WHAT CAN I WRITE ON THIS SIDE OF THE BOARD? Point to the right side of the line.

Repeat this line of questioning, always alternating solution and consequence, intermittently asking: IS THAT A GOOD IDEA? WHY IS THAT A GOOD IDEA? Such questions should be asked for nonforceful ("ask him") as well as forceful ("hit him") solutions.

CLASSROOM BEHAVIOR INVENTORY SCORE SHEET

NAME OF STUDENT

AGE (Yrs.) (Mos.)

TEACHER

TOTAL SCORE

1. VERBAL EXPRESSIVENESS	1	13	25	37	49	T
2. HYPERACTIVITY	2	14	26	38	50	T
3. KINDNESS	3	15	27	39	51	T
4. SOCIAL WITHDRAWAL	4	16	28	40	52	T
5. PERSEVERANCE	5	17	29	41	53	T
6. IRRITABILITY	6	18	30	42	54	T
7. GREGARIOUSNESS	7	19	31	43	55	T
8. DISTRACTIBILITY	8	20	32	44	56	T
9. CONSIDERATENESS	9	21	33	45	57	T
10. SELF-CONSCIOUSNESS	10	22	34	46	58	T
11. CONCENTRATION	11	23	35	47	59	T
12. RESENTFULNESS	12	24	36	48	60	T

SCORE SHEET (continued)

Extraversion vs. Introversion SCORE

Predicted Factor I — Ver. Exp. & Greg. - Soc. W. & Self-C

Total Score1_____ Total Score7____ - Total Score4____ Total Score10___ T_____

Positive Social Behavior vs. Social Hostility

Predicted Factor II — Kind & Consider. - Irrit. & Resent.

Total Score3_____ Total Score9_____ -Total Score6____ Total Score12____ T_____

Positive Task-Oriented Behavior vs. Negative Oriented Behavior

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Predicted Factor III — Persev. & Concen. - Hyper. & Distract.

Total Score5_____ Total Score11____ -Total Score2_____ Total Score8____ T_____

VI

Reference Notes

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