

1990

The relationship of interpersonal problem-solving skills to adjustment

James Alan Russo

College of William & Mary - School of Education

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adjustment**

Russo, James Alan, Ed.D.

The College of William and Mary, 1990

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THE RELATIONSHIP OF
INTERPERSONAL PROBLEM-SOLVING SKILLS
TO ADJUSTMENT

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
James Alan Russo

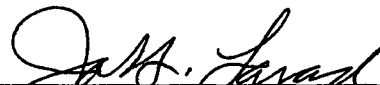
May 1990

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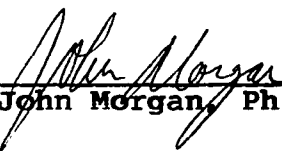
Approved May 1990 by



John F. Lavach, Ed.D
Chair of Doctoral Committee



George M. Bass, Jr., Ph.D.



John Morgan, Ph.D.

To my wife, Karen,
for her love and unwavering emotional support
throughout the six long years and
to my children, Theresa and Daniel.

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ABSTRACT

This experimental study examined the effects of different methods of training and verbal cognitive ability on second-grader's acquisition of social problem-solving skills and teacher-rated behavioral adjustment. Subjects were assigned by classroom to either classroom training only, classroom training with parent training, classroom training without parent training (those parents who were offered training but did not participate), or control. The 25-lesson Rochester Social Problem-Solving curriculum was taught three times per week for nine weeks by classroom teachers and a four session parent training component was taught by mental health prevention staff members and this researcher. Consistent with previous research, classroom instruction in Social Problem-Solving produced significantly greater increases in problem-solving skills for subjects in the classroom training, classroom training/parent training and classroom/no parent training groups than for subjects in

similar gains were seen on the competency variable for subjects in the classroom training group. No correlation was discovered between social problem-solving skills and verbal cognitive ability, however a significant correlation was evident between the problem-solving and behavioral adjustment variables.

The significant cognitive problem-solving skill / behavioral adjustment relationship was believed due to the use of experienced teachers, the use of dialoguing by teachers and the age of the students.

The lack of consistent improvement of subjects cognitive and behavioral skills as the result of different training methods is thought to be due to the shortness of parental training, the need for increased behavioral practice and the brief time between the completion of training and posttreatment assessment.

Suggestions for further research in social problem-solving include an examination of subjects sociodemographic characteristics and the set of cognitive problem-solving skills as they relate to students adjustment, the generalization of cognitive and behavioral skills beyond training, the development of alternative and more psychometrically sound instruments to measure this construct, and improved methods for parent training. Finally, implications for education and counseling are explored.

James Alan Russo

SCHOOL OF EDUCATION

THE COLLEGE OF WILLIAM AND MARY IN VIRGINIA

THE RELATIONSHIP OF
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Chapter 1

Introduction

Statement of the Problem

Since its inception, the American educational system's primary responsibility has been to educate children so that they may become contributing, functioning members of American society. An important component of that goal is socialization, which includes such behaviors as being able to assume classroom responsibilities, follow school rules, show consideration for others, and work cooperatively with and independently from peers (Commonwealth of Virginia, 1983). Researchers such as Cox and Gunn (1980) emphasize the importance of socialization as they state: "it is generally recognized that the ability to interact successfully with both peers and significant adults is an important developmental milestone of a child's elementary school years" (p. 688). However, Combs and Slaby (1977) point out that little effort is put into the formal teaching of social skills within the school curriculum.

School officials and the public at large assume that in general, children are successful at reaching this milestone,

and acquire appropriate social skills under the present informal system of social instruction. There is also the argument that children automatically acquire appropriate social skills through positive parental and peer influences (Spence, 1983) and therefore schools should not be concerned with the structured teaching of these skills. However, research in the field of social competence has unearthed evidence contrary to the belief that all children learn these skills. Early studies, such as Gronland (1959), found that six percent of children in grades three to six had no friends in their classroom, and an additional 12 percent had only one classroom friend. More recently, Asker and Taylor (1981) found very similar results as they reported that children without friends are slower to develop appropriate peer relationships over time. Also, longitudinal research has discovered that children who have problems interacting with others are more likely to be identified later as juvenile delinquents (Roff, Sells and Golden, 1972), and more likely to have mental health problems later in life (Cowen, Pedersen, Babijam, Izzo and Trost, 1973). Further, changes within the American family over the past several decades have placed demands on the educational system to broaden it's responsibility to children. Dual career parents, the increased need for, but lack of quality child care, and the increased rate of divorce have all impacted upon children's acquisition of appropriate personal, social, and affective competencies (Gesten & Weissberg, 1986). Many

school systems have expanded their basic curriculum to include such topics as family life (sex education), drug education, and nutrition to address these changes. Thus, the teacher's role is also expanding to include greater emphasis on affective, social, and personal skills.

Even though many children learn the skills necessary to make initial contact and establish friendships with their peers, their ability to maintain these friendships rests heavily on their skills for coping effectively with interpersonal peer conflict. Common childhood experiences such as being teased, being left out of a game, having toys taken away by peers, fighting over which T.V. program to watch or what game to play, all involve interpersonal problems which must be solved by the child on a day-to-day basis. The capacity to solve such problems in social situations is one criterion for defining positive mental health (Johada, 1953), and the consistent failure to resolve such problems can adversely affect a child's emotional adjustment (Weissberg and Gesten, 1982).

Landmark research into this area of social competence by Spivack and Shure (1974) produced a cognitive-behavioral model of interpersonal problem-solving. Intervention research on this model discovered a strong relationship between children's ability to solve interpersonal social problems and their behavioral adjustment as measured by classroom teachers. This discovery led researchers to conclude that there are a set of cognitive-behavioral skills

which mediate socially competent behavior and behavioral adjustment.

However, recent studies applying this social problem-solving theory to latency aged (7 to 12 year-old) children have not confirmed this direct link between cognitive skills and subsequent behavioral adjustment. Durlack (1983) summarizes the current knowledge of social-problem solving research as he states, "it is possible to improve children's problem-solving abilities through training, but whether this improvement has any affect on their overt behavioral adjustment is questionable" (p. 36). Possible explanations for these questionable results, stated by Spivack & Shure (1985), include the more habitual behavior patterns of older children and the need for "dialoguing" throughout the school day and at home (Gesten, Rains, Rapkin, Weissberg, Flores de Apodoca, Cowen, & Bowen, 1982). Other researchers (McKim, Weissberg, Cowen, Gesten, & Rapkin, 1982) have also questioned the relationship between social problem solving skill acquisition and a child's intellectual level as well as children's ability to acquire and apply these skills in day-to-day living. In addition, difficulty with the measurement of social problem skills and behavioral adjustment have been consistent concerns of writers in this area (Butler and Meichenbaum, 1981; Elias, 1985).

Given these considerations, this study investigates procedures for maximizing a child's acquisition of this

important social skill, namely, the ability to solve peer-interpersonal social problems. Specifically, the following question was posed: How does the method of social problem-solving training and children's intellectual ability impact on social problem-solving skill and teacher-rated behavioral adjustment?

General research hypotheses:

Hypothesis Ho1. There will be no significant correlation between intellectual ability and social problem solving skills.

Hypothesis Ho2. Children who receive social problem solving classroom training will display greater gains in social problem solving skills and teacher-rated behavioral adjustment than non-trained children.

Hypothesis Ho3. Those children who receive the social problem classroom training and whose parents also participate in the social problem solving training program will display greater gains in social problem solving skills and more positive teacher-rated behavioral adjustment than children who receive classroom training only.

Hypothesis Ho4. There will be no significant correlation between children's social problem solving skill gains and teacher-rated behavioral adjustment as a result of training.

Definition of Terms

Behavioral Adjustment - Behavioral adjustment is a global concept used to describe a child's level of impulsivity, verbal or physical aggressiveness, adaptation to imposed school limits and confidence in dealing with peers in a social environment.

Interpersonal Cognitive Problem-Solving Skills (ICPS) - ICPS are a set of social problem solving skills hypothesized by Shure, Platt & Spivack (1976), which impact on children's social competence. These skills are: sensitivity to human problems, alternative solution thinking, means-ends thinking, causal thinking, consequential thinking and social-role taking.

Intellectual Ability - Intellectual ability is a global term used to describe an individual's ability to "adjust or adapt to the environment, the ability to learn, or the ability to perform abstract thinking" (Sattler, 1988, p.45).

Problem-Solving Dialogue - The process through which children are guided by an adult to use the problem solving steps during actual interpersonal conflicts which occur outside of formal group training sessions (Shure & Spivack, 1982). On an informal basis, teachers help their children define the problem, decide on a goal, generate alternative solutions, anticipate the consequences of the solution,

choose a solution, and try it. (Mannarino, Christy, Durlak, & Magnussen, 1982).

Social Competence - Social competence refers to a wide range of social skills, behavioral competencies, and coping behaviors which enable an individual to deal effectively with the demands of everyday living (Goldfried & D'Zurilla, 1969; Wrubel, Benner, & Lazarus, 1981).

Social Problem-Solving - Problem-solving is defined as a cognitive-affective-behavioral process used by an individual to solve a problem which occurs in everyday living (D'Zurilla & Nezu, 1982). It is a component of social competence and consists of specific, interrelated social skills.

Social Skills - Social skills are defined as "those responses which within a given situation prove effective" (Foster and Ritchey, 1979) and "those components of behavior that are important for a person to be successful in their interactions in a manner which does not cause physical or psychological harm to others." (Spence, 1983). These responses are considered to be both verbal and nonverbal as well as cognitive and behavioral. They are situational in nature, in that appropriate social behavior is context specific.

Limitations

This study employed students from one predominately white upper-middle to upper class suburban elementary school. The reader is cautioned not to generalize these findings to other studies or subjects without careful comparison of their demographic characteristics.

Social problem-solving interventions are preventative in nature (Weissberg & Gesten, 1982). However, this study focused only on the immediate gains of subjects after treatment and no attempt was made to assess the long-term cognitive or behavioral adjustment gains nor benefits to the subjects. No attempts should be made to generalize these results to possible long-term benefits of such programs.

Further, the social problem-solving intervention described herein was presented by classroom teachers in a very systematic, prescribed manner which was closely monitored by the researcher. In addition, the use of dialoguing was an integral aspect of this program. These findings are not generalizable to intervention programs which do not include these components.

Chapter 2

Review of the Literature

Theoretical Rationale

Human problem-solving ability and the cognitive processes involved in formulating a conclusion to a problem have long been an area of interest to researchers in psychology. Most of this research grew out of Associationism Theory (Thorndike, 1911; Hull, 1943), Gestalt Psychology (i.e. Wertheimer, 1959; Kohler, 1925) and Information Processing Theory (i.e. Ernst and Newell, 1969; Simon, 1962). However, the focus of that research has been on the individual's ability to solve non-personal problems (e.g. puzzles, word problems, anagrams, etc.) with the goal of learning more about how humans think. Simon and Newell's (1971) classic review of cognitive problem-solving focused entirely on the intellectual tasks involved in solving impersonal problems and made no reference to interpersonal problem-solving. An historical shift in problem-solving research occurred with the publication of D'Zurilla and Goldfried's (1971) article in which they proposed a theory of interpersonal problem-solving based upon a set of goal-directed tasks necessary to solve interpersonal

problems. The tasks include: problem definition, generating alternatives, making a decision, implementing the solution and evaluating the outcome.

In applying this theory to counseling, these authors view abnormal behavior or emotional disturbance as "ineffective behavior": the individual is unable to resolve interpersonal problems and any attempt to solve such problems produces undesirable effects such as "anxiety, depression and the creation of additional problems" (p. 107). Successful interpersonal problem solving is but one component of social competence, which is seen as a wide range of social skills, behavioral competencies, and coping behaviors which individuals use to meet the demands of everyday living (D'Zurilla, 1986; Goldfried & D'Zurilla, 1969).

Approaching social competence from the cognitive problem-solving orientation, Spivack, Platt and Shure have developed a theoretical model of interpersonal cognitive problem-solving which views the capacity for interpersonal problem-solving as a primary contributor to a child's social competence. Social problem-solving ability is not seen as a single trait but rather as several interrelated processes or skills. They state, "There is a grouping of interpersonal cognitive problem-solving skills (ICPS) that mediate the quality of our social adjustment" (Spivack, Platt, & Shure, 1976, p. 4). They believe that these skills are not personality traits nor are they a component of general

intelligence. Rather, "They emerge as skills at different ages depending on the capacity of the developing child and the cognitive demands of the skill" (p. 7).

Their model consists of a set or grouping of interpersonal cognitive problem-solving (ICPS) skills which are developmental in nature and which emerge in children as they develop socially and cognitively. They state: "These skills comprise a grouping of skills that are learned through experiences with other people, particularly childrearsers. How well the growing child evolves these skills will reflect how much these forms of ICPS thought are manifest in adults around him at home, especially during the solution of real interpersonal problems in the family." (Spivack, Platt, & Shure, 1976, p. 7).

Based upon Dewey's (1910) logical steps to impersonal problem solution, Spivack, Platt and Shure (1976) have identified five interpersonal problem-solving skills which they believe are imperative for social adjustment:

- 1) The awareness of and sensitivity to interpersonal problems, and the ability to examine oneself when relating to others.
- 2) The ability to generate alternative solutions to social problems.
- 3) The ability to articulate the step-by-step means that may be necessary in order to solve the problem.
- 4) The ability to consider the consequences of one's social acts, in terms of their impact on other people and oneself.

- 5) The awareness that how one feels and acts may be influenced by how others feel and act (social reciprocity).

Since 1963, Spivack and others at Hahnemann Medical College have researched and validated these ICPS skills and their relationship to an individual's adjustment and positive mental health. Their correlational and experimental studies have revealed that ICPS can distinguish between "normal" and "disturbed" children (Shure and Spivack, 1972). Further, those children and adolescents described as "disturbed" by classroom teachers were found to be more deficient in their ability to plan careful step-by-step means to reach a goal, consider consequences for their behavior (Spivack and Levine, 1963), be sensitive to human problems (Platt, Altman and Altman, 1973), and generate alternative solutions to problems (Shure and Spivack, 1970). Further, training programs designed to correct these deficiencies have in some cases resulted in both improved problem-solving skills and improvement in teacher ratings of adjustment (Shure and Spivack, 1978, 1979).

Relationship of ICPS to Adjustment

Preschool-Aged Children

Early theory and development research into ICPS was focused on Spivack's theory (Spivack, 1966) that individuals

who were able to adjust and cope with the demands of living had the ability to solve real-life problems. This theory as it related to preschool children was initially explored in a study of the problem-solving thinking skills of four-year olds. Shure, Spivack and Jaeger (1971) hypothesized that "poorly adjusted" compared to "better adjusted" pre-schoolers would be more deficient in their ability to conceptualize solutions to peer-problems, to foresee consequences of these solutions, and would be less able to see cause-and-effect relationships. Measures assessing alternative solution thinking, consequential thinking, and causal thinking partially supported their hypothesis. Preschoolers who were considered better adjusted in social behavior by their teachers were able to generate a greater number of solutions to typical peer-related problems. The authors hypothesized that children who were able to think of many possible alternatives to attain a goal would appear less frustrated when they initially met failure with any one solution. These better-adjusted children also produced more acceptable alternatives and alternatives which would more likely be effective in attaining their goal.

In contrast to the above significant gains, children's performance on measures of consequential and causal thinking were not significantly related to teacher-ratings of behavioral adjustment. The authors suggest that this outcome may have been due to preschooler's inability to "simultaneously consider both 'What should I do?' and 'What

might happen if?' before he does take action" (p. 1802). However, subsequent research (Shure, Newman, & Silver, 1973) has found that consequential thinking is significantly related to a child's behavioral adjustment while causal thinking is not.

As a result of these correlational studies, Shure & Spivack hypothesized that preschoolers' adjustment could be enhanced by training them to identify human problems, generate alternative solutions to solve the problem, and consider the potential consequences of their solutions before acting. This hypothesis focused their intervention research which was designed to improve behavioral adjustment by training groups of disadvantaged, black preschoolers to solve common everyday peer problems.

Shure, Spivack, and Gordon (1972) employed research assistants to train 22 preschoolers (outside the classroom) using a 50-session program script. The experimental group as well as two groups of control children (attention and no-treatment control) received pre/posttesting on measures of alternative solution thinking, intellectual ability, and teacher-rated adjustment. The teachers were blind to the nature of the training and attention-control activities. The researchers found significant improvement in the number of alternative solutions children were able to generate after training over those who received no training. Behavioral rating results were mixed with no significant improvement on teacher ratings when trained children were

compared with the control children. However, children showing the most (although not significant) behavioral improvement also showed the greatest improvement in the trained problem-solving skills, leading the researchers to suggest that the improved problem solving skills brought about the improved behavioral adjustment.

It is important to note that in this study child-training was conducted by research assistants outside the classroom rather than the teacher and thus problem solving dialogue throughout the day was not possible.

In an investigation designed to enhance behavioral adjustment gains by increasing dialoguing, Shure & Spivack (1972a) used preschool teachers to train 52 children in ICPS skills. The teachers received on-going weekly training during the program. Comparing experimental to matched control children, significant improvement was seen in three ICPS skills: alternative solutions, consequential thinking, and causal thinking. Further, significant gains were seen on teacher-rated adjustment measures. Another discovery was that those children with the lowest problem solving scores before training made the greatest gains after training. Thus it was found that preschool teachers were as effective as research assistants in training children in problem solving thinking and more effective in producing behavioral change.

Similar findings were also reported in a larger study by Shure & Spivack (1973). In addition to the improvement

in alternative, consequential, and causal thinking, trained children improved in the number of relevant solutions generated to interpersonal problems and decreased in the number of aggressive solutions. Positive behavioral adjustment for trained children was also seen. The percentage of trained children rated as adjusted changed following intervention from 36% at the pretest to 71% at the posttest. This compared with only 47% to 57% (pre/post) for the control group children.

As a result of these studies, a mediational link between problem solving skills and a child's behavioral adjustment was hypothesized. To investigate this hypothetical link, Spivack & Shure (1974) embarked on a two-year study involving preschool and Kindergarten children. They investigated whether children who improve in trained ICPS skills were the same children who improve in behavioral adjustment. As in previous studies, classroom teachers taught their children problem solving skills via a 50-lesson, 12 week program. Using a pretest, posttest control group design, the researchers found significant increases in trained children's alternative solution thinking and consequential thinking. For causal thinking, trained pre-school children but not kindergarten children also displayed significant improvement. This latter result was believed to be due to a small sample size which affected pre to post statistical gains. As expected, teacher ratings on behavior measures improved significantly for trained as

compared to non-trained children as a result of the intervention. The researcher's hypothesis was confirmed as a mediational link was found. The authors state, "Those who improved in behavioral adjustment were significantly more likely to also improve in trained solution thinking skills than those whose behaviors did not change" (Spivack & Shure, 1974, p. 38).

Recently, Ridley & Vaughn (1982) have questioned the outcome results of Shure & Spivack's studies on a number of programmatic and methodological issues. First, they believe that a model of interpersonal problem-solving should not only include cognitive problem solving skills but also behavioral problem solving and empathic communication. Second, they question the generalizability of Shure & Spivack's findings to other than lower SES black children. Third, the researchers stress the need for a behavioral measure of interpersonal problem solving in addition to the verbal/cognitive measures used by Shure & Spivack (1974). Finally, Ridley & Vaughn believe that the use of pre-school teachers as program trainers and behavioral raters confound the results due to potential bias.

Sharp's (1981) investigation attempted to control for a number of methodological weaknesses in Shure & Spivack's original study. Project staff outside the classroom trained 54 black, low-income preschoolers, following Shure & Spivack's 1974 training manual. Teachers blind to treatment conditions completed classroom behavior rating scales and

project staff administered ICPS skill measures to the children before and after training. In addition, 'blind' observers rated children's behaviors in three different settings to obtain a sample of children's behavior in typical classroom situations. Posttesting revealed no significant differences between those children rated as impulsive and those rated as adjusted on either problem solving measure. However, children rated as 'aberrant' did reveal significant pre to post problem solving changes on measures of alternative solution thinking. On the teacher behavior ratings no consistent positive change was seen in children's behavior after social problem solving training. The author concluded that there was no consistent relationship between young preschool children's cognitive problem solving skill and their overall level of behavioral adjustment. However, she did concede that the lack of behavioral improvement may have been due to a lack of 'in vivo' reinforcement of training by way of teacher-led dialoguing during actual peer conflict.

Sharp's explanation for lack of behavioral improvement must be seriously considered when addressing the efficacy of social problem solving training programs. Shure (Spivack & Shure, 1985) believes that "problem solving dialoguing" must be used during training to link what is learned in the isolated lessons-games to actual peer conflict. She states, "In vivo (training) would help children associate how they

think with what they do and how they behave" (Spivack & Shure, 1985, p. 231).

Feis & Simons (1985) applied Spivack and Shure's 1974 ICPS Program for preschool children to predominantly white Headstart children in rural Michigan. Over a three year period a total of 47 preschool children were trained in problem solving skills by their teachers. The authors note that teachers were encouraged to use dialoguing (applying the skills learned in the training sessions to actual peer conflicts) throughout the school day. Significant pre to posttest gains in alternative solution thinking were seen for trained children in each of the three years. Due to measurement problems, teacher-rated behavioral adjustment was not reported for the first two years. Behavioral results for the third year revealed that trained children as compared to controls were rated significantly lower on measures of anxiety/fearful behaviors, hyperactive/distractable behaviors and total negative behaviors. The researchers also reported a significant correlation between children's alternative solution thinking and their teacher-rated behavioral adjustment. This supports Spivack & Shure's (1974) hypothesized link between problem-solving skills and behavioral adjustment. However, these researchers modified Spivack & Shure's program by adding dialoguing.

Applying social problem-solving training to a different SES group, Ridley & Vaughn (1982) trained 20 middle class

preschoolers with a program similar to Shure & Spivack's (1974). These researchers added an empathic communication mode [defined by the author as "a (communication) component which facilitates movement toward successful problem solving"] (p.179) to their training program. The 40-session, 10-week training program was conducted outside the regular classroom by a graduate student. Pre/post test assessments were obtained by a graduate student blind to treatment conditions. The results revealed that trained children compared to controls displayed significantly greater alternative solution thinking skills on the verbal/cognitive problem solving tests and the behavioral problem solving test. However, no significant difference was evident between the groups on the measure of empathy. Teacher rated behavioral adjustment was not measured in this study. The authors suggest that future research investigate the effects of teachers implementing this program in their classrooms and parent involvement in the program so that they may attempt to solve problems which occur at home in a similar manner.

Investigating the use of their problem solving program with aggressive preschoolers, Vaughn, Ridley & Bullock (1984) found essentially the same results as seen with non-aggressive children. Two Headstart preschool teachers screened 165 middle class children using the Hahnemann Preschool Behavior Rating Scale. Out of this total population, 25, or 15% of the children were classified as

aggressive. The preschoolers were randomly assigned to either an experimental group or a contact control group. Experimental children were trained using the same 40-session, 10 week program cited above (Ridley & Vaughn, 1982). Pre to posttest results revealed that trained children as compared to control children improved significantly on alternative solution thinking and were less likely to engage in irrelevant talk. Three-month follow-up assessments indicated that these skill increases were maintained. In addition, a very encouraging outcome was that the experimental group at posttest demonstrated a 150% increase in cooperative responses (e.g. "We could play together") and produced 300% more persuasive responses (e.g. "Tell him his mother wants him") when solving peer problems.

Using a social problem solving curriculum especially designed for middle-income suburban Kindergarten children, Winer, Hilpert, Gesten, Cowen, & Schubin (1982) explored the question of social problem solving skill and adjustment gains and the relationship between these two sets of gains with children from middle-income families. One hundred and nine children (63 experimental and 46 comparison) were involved in this investigation. The experimental children received training four times a week for ten weeks from their classroom teacher, assisted by undergraduate aides. Weekly training sessions as well as bi-weekly individual consultation sessions were provided for the teachers. Results of social problem solving measures were consistent

with previous studies, showing significant pretest to posttest gains for trained children on five of six social problem solving measures (Alternate solution thinking, solution variants, total solutions, irrelevant responses and effective solutions). Significant teacher-rated behavioral changes were seen on Problem-Total and Frustration Tolerance factors while change on the Competence Total factor approached significance ($p = .08$). However, when the researchers examined correlations between the social problem solving measures and the adjustment measures, no significant relationship was seen. A direct link between improvement in social problem solving skills and adjustment was not found.

Nelson & Carson (1988) combined the affective skill aspects of Project Aware (Elardo & Cooper, 1977), the specific social behaviors of friendship making and getting along with others from LaGreca & Santogrossi (1980), and the cognitive problem-solving aspects of the Rochester program (Weissberg et. al, 1980) to examine behavioral change in children. They believed that this combination would improve the quality of children's solutions to interpersonal problems and thus improve performance and generalization of behaviors. In a pretest/posttest follow-up designed study, a total of 101 predominately white third and fourth grade children were trained by their classroom teachers, a teacher's aide, the program coordinator and six undergraduate students. The children were divided into groups of five or six and received training for one hour per

week for 18 weeks. Evaluation measures assessed the children's knowledge of social problem solving skills, their behavioral performance of social problem solving skills, teacher rated classroom behavior, child confidence in social situations (social confidence) and social status.

Posttraining evaluation revealed significant increases in social problem knowledge and performance for trained children vs. non-trained children. However, behavioral adjustment findings were inconsistent as trained third graders showed increases in problem behavior and "social" confidence while at the same time, displaying decreases in peer acceptance. On the other hand, fourth graders showed increases in both competence and "social" confidence.

The authors explain these results by noting that implementation of the program in the third grade class was problematic due to lack of consistent communication between consultant and teacher (a critical program aspect according to Gesten & Weissberg, 1986) and that the teacher stated that her students were a difficult group and the unit on SPS skills came too late in the school year to help the students. This would explain the increases in problem behavior as rated by the third grade teacher. In addition, the researchers do not mention the use of dialoguing, and the make-up of training (children in groups of 5 or 6 with different "teachers") suggests that this was not stressed and therefore was not used in any consistent manner.

An examination of the above studies involving preschoolers reveals a consistent pattern of outcome as it relates to program trainers. In investigations using non-classroom teachers as trainers (Shure, Spivack & Gordon, 1972; Sharp, 1981; Ridley & Vaughn, 1982; 1983; Vaughn, Ridley & Bullock, 1984), no significant behavioral change was seen after social problem solving training. However, in those investigations which relied on classroom teachers as trainers, problem solving dialoguing was cited (or if not, likely took place) and behavioral change was seen (Shure & Spivack, 1972a; Shure & Spivack, 1973; Spivack & Shure, 1974; Winer et al. 1982; and Feis & Simon, 1985).

Elementary-Aged Children

Problem-solving skill gains (and in some studies adjustment gains) with four and five year-olds after training have not been consistently replicated with elementary-aged children. Olexa and Forman (1984) trained 64 inner city 4th and 5th graders from Title 1 programs with a modified Spivack and Shure (1974) problem-solving curriculum over an eight week period (50 minutes of training per week). Both problem-solving skills and behavioral adjustment were assessed before and after training and at a five week follow-up. The results indicated significant improvement in alternative and consequential thinking skills in trained children vs. non-trained children. However,

significant changes were not found in either teacher ratings of behavior or observed classroom behavior. They conclude, "The relationship between behavioral improvement and acquisition of problem-solving skills remain questionable" (Olexa & Forman, 1984, p. 173). Their conclusion must be viewed with caution, however, given the methodological shortcomings of their study. First, their treatment was relatively short (eight weeks) and most likely did not allow sufficient time for the students to integrate the problem-solving skills into their behavioral repertoires. More importantly, the children were trained not by their classroom teachers, but by a school psychologist and a social worker, which severely limited the use of dialoguing with problem-solving skills in the regular classroom.

Alvarez, Cotler and Jason (1984) found similar results with 24 fourth grade students from an inner city elementary school. The eight week training program focused on recognition of emotions, generation of alternative solutions, and selection of appropriate consequences for interpersonal acts. The results of their randomized, pretest, posttest investigation revealed a significant improvement of trained children in generating alternative solutions and anticipating the consequences of their proposed solutions. However, no significant changes were found on measures of self-esteem, classroom behavior, sociometric ratings or teacher ratings. They conclude, "performance on these scales may be independent of

problem-solving ability" (p 285). Once again, the study contained multiple weaknesses. Alvarez et al. expected behavioral changes after only 8 weeks of training. This time period appears to be too short for effective transfer of cognitive knowledge to behavioral skill especially when they, like Olexa and Forman, relied on non-classroom teachers (undergraduate and graduate psychology students) as trainers and removed the children from the classroom during training.

Allen, Chinsky, Larcen, Lochamn & Selinger (1976) conducted a large scale social-problem solving study using 150 third and fourth grade children. The authors developed a six unit, 24 lesson problem-solving program which combined aspects of Spivack and Shure's work with D'Zurrilla & Goldfried's (1971) problem-solving model. The six units taught divergent thinking (brainstorming), problem identification, generation of alternative solutions, consequential thinking, means-ends thinking, and integration to real-life social situations. Behavioral role-play and modeling along with large and small group activities were used by classroom teachers and aides to teach the program lessons twice a week for 12 weeks. Pre and posttreatment measures of problem-solving skills, self-esteem, locus of control, level of aspiration, peer social acceptance, teacher behavior rating, and ability were obtained. The teacher ratings were completed by the children's Language

Arts teachers rather than their classroom teacher in an attempt to keep the ratings unbiased.

Pre to posttreatment results revealed that the trained children successfully learned the problem-solving skills but showed no significant improvement over controls on measures of self-esteem, level of aspiration, teacher behavior ratings or peer social acceptance. Further, the children's improvement in social problem-solving skills were unrelated to IQ, age or sex.

Given the reported failures of ICPS programs to produce consistent improvements in elementary-aged children's behavioral adjustment, Gesten et al. (1979) designed and evaluated a new highly structured 17 lesson program. A total of 201 white lower middle class second and third grade children (133 experimentees and 68 controls) were trained by teachers who had previous social problem solving training, over a nine week period. The teachers were assisted by two undergraduate aides which allowed for small group role play and discussion. Both teachers and aides were trained in two-hour weekly sessions by program staff. Posttraining evaluation revealed significant gains in the alternative solution and consequential thinking skills of trained vs. non-trained children. However, no difference between the groups was evident on the teacher measures of adjustment. The authors suggested the following in explanation of the lack of adjustment gains, "Apparently more time and practice of social problem-solving skills than the present program

allowed is needed before significant adjustment gain can take place" (Gesten et al., 1979, p. 113). They also suggested that the integration of the problem-solving approach in other aspects of the school day (ie. dialoguing) may facilitate adjustment.

Weissberg (1980), identifying the need for longer ICPS training, expanded Gesten et al.'s (1979) program from two to four months, increased the number of class lessons from 17 to 52, and offered parent-training sessions for parents. Weissberg used a pretest, posttest control group design to investigate the effects of social problem-solving training on 122 third grade suburban and urban children. Six previously trained teachers instructed their students twice weekly in social problem-solving via a highly structured 52 lesson curriculum. Each teacher was assisted by two undergraduate assistants in the classroom and they all received weekly instruction via one and a half hour training workshops. Children were evaluated on a variety of problem-solving and behavioral adjustment measures by trained evaluators who were unaware of treatment conditions and by classroom teachers. The postintervention results revealed significant gains in trained children's social problem-solving skills over their non-trained peers. The behavioral adjustment findings were more complex, as gains were made for the suburban children on seven of nine measures of teacher-rated adjustment, while the urban children were rated less well-adjusted on five of those same

nine measures. The author attributed the negative adjustment of urban children to such unexpected methodological problems as teacher attrition, teacher bias toward the training program, mismatched urban pre-treatment groups, and specific curriculum problems. Finally, Weissberg did not find a significant relationship between the children's social problem-solving skill gains and their adjustment gains, thus once again questioning Shure and Spivack's (1974) hypothesis regarding a link between these two constructs.

Distressed over the decrease in adjustment of urban children, Weissberg, Gesten, Carnike, Rapkin, Davidson, & Cowen (1981) modified the Weissberg (1980) social problem solving curriculum to meet the needs of both urban and suburban children. Five hundred and sixty three urban and suburban (332 experimental and 231 control) second, third and fourth grade children participated in the study. Classroom teachers taught the social problem solving curriculum three times per week for 14 weeks (42 lessons). The teachers received weekly two hour training workshops and bi-weekly consultations with program consultants and were assisted in the classroom by undergraduate aides.

The researchers assessed all children before and after training on measures of alternative thinking, sociometric status, classroom behavioral adjustment, and actual problem solving during a simulated behavioral problem solving test. A comparison of pre to posttest results revealed that

trained children as compared to controls made significant gains on measures of alternative solution thinking. In addition, urban children as compared to suburban children tried significantly more behavioral solutions to problems and generated significantly more different approaches to solving problems. Teacher-rated behavior adjustment revealed significant pre to post differences as trained children improved on five of 10 behavioral factors. However, no significant differences were evident between trained and control groups on the sociometric measures. Finally, they found no significant correlation between social problem solving and adjustment.

An examination of the above studies involving elementary-aged children reveals mixed outcome results as a function of the program trainer. Of the five studies reviewed, only one, Weissberg et al. (1980), found significant behavioral change after classroom training by teachers. All of the other studies (Olexa & Forman, 1984; Allen, Chinsky, Larcen, Lochman, & Selinger, 1976; Alvarez et al. 1984; Gesten et al. 1979; Weissberg, 1980) found no such significant behavioral change.

Relationship of Intellectual Ability and ICPS to Adjustment

The relationship of Interpersonal Cognitive Problem Solving skills and IQ to behavioral adjustment has been explored in only a few studies. Initial investigations

exploring this relationship were motivated by Spivack's (1973) premise that ICPS and IQ were unrelated. Shure, Newman, & Silver's 1973 study involving preschoolers problem-solving thinking and their behavioral adjustment revealed that IQ was significantly correlated with alternative thinking, consequential, and causal thinking. However, post hoc discriminant analysis found "that knowledge of IQ adds nothing to the power of the cognitive measures in predicting behavioral adjustment" (p.119).

Shure, Spivack, & Gordon (1972) discovered similar findings as the results of their investigation indicated no significant relationship between a child's problem solving scores and his/her ability level. In addition, given the wide range of the training group IQ's (55 to 120), they suggested that it is possible to improve a child's problem solving skills within a wide range of IQ levels.

Similar findings have also been reported by Shure, Spivack, & Jaeger (1971) and Shure & Spivack (1982).

McKim, Weissberg, Cowen, Gesten, & Rapkin (1982) explored the relationship between ICPS skill level and adjustment of suburban and urban children. One hypothesis of this descriptive study was that these variables would be independent of IQ. Two hundred and forty three third graders from suburban and urban schools were evaluated on problem solving measures (alternative thinking, means-ends thinking, social role taking), teacher-rated adjustment, peer likeability, self-concept and anxiety. IQ measures

used were the Peabody Picture Vocabulary Test for urban children and Lorge-Thorndike for suburban children. Since these two intellectual measures are not directly comparable, no cross-sample analysis was performed.

While significant differences were found between suburban and urban children on four of seven problem solving measures and five of 14 adjustment measures, of specific interest here is the role of IQ. The researchers found a positive relationship between means-ends thinking and social-role taking and adjustment for suburban children. However, when IQ was controlled, this significant relationship was not seen. Thus the researchers concluded that the adjustment - problem solving link was mediated by the child's IQ. However, this was not found with the urban children as alternative thinking was significantly related to adjustment even when IQ was controlled.

In working with third grade suburban children, Rains (1978) also discovered a link between IQ and social problem solving skill. Experimental children were trained in social problem solving via a 17-session curriculum which included discussion, videotape modeling, role-playing and practice exercises. Pre to posttest results revealed gains in social problem solving skills and behavioral adjustment. However, children's IQ scores related positively to alternate thinking gains, again suggesting a mediational link. Nevertheless, Tisdelle & St. Lawrence's recent (1986) review

of the ICPS literature claimed, "interpersonal problem solving skills are independent of IQ" (p. 341).

The failure to uncover a social problem skill / behavioral adjustment link in many social problem solving interventions may be due to the mediating effects of IQ. Clearly, additional research relating the effect of IQ on social problem solving skills appears necessary to clarify this issue.

Relationship of ICPS and Parent Training to Adjustment

Few researchers have explored the use of parental involvement in social problem solving training and adjustment. Initial work in this area was conducted by Shure & Spivack (1978) and outlined in their book, Problem-Solving Techniques in Childrearing. In an early pilot study, Shure and Spivack (1975) attempted to train inner city mothers in ICPS skills with the hope that they could be as effective as were classroom teachers in improving children's problem-solving and behavioral adjustment. The identical problem-solving training program used to train teachers was used with 20 mothers of four year-old children. They received three months of daily exposure to the procedures and were instructed to use them with their children. After three months, posttest evaluation revealed significant gains in the children's ability to generate alternate solutions and see the

consequences of those alternatives. In addition, the ratings by pre-school teachers who were unaware of the home-based program showed that the children improved significantly in their adjustment.

In a larger study, Shure and Spivack (1979) matched 20 black inner-city mother-child pairs who received parent training with 20 mother-child pairs who served as controls. They were matched on a variety of parent (e.g. the mother's problem-solving ability) and child (e.g. teacher rating on behavioral adjustment measures, sex, age) variables. The parent-training program was similar to the one used in the previous study and training lasted the same length of time (three months). The posttraining results showed that compared to the non-trained group, the children whose mothers received training improved significantly in alternative solution and consequential thinking. Significant adjustment gains were also seen on teacher-rated behavioral adjustment. Teachers unaware of the parent training program completed the Hahnemann Preschool Behavior Rating Scale before and after training. Children whose mothers received ICPS parent training scored significantly better on factors measuring patience, emotionality and aggression. The authors concluded that the ability to generate alternative solutions related most to improved adjustment.

Shure and Spivack's research has consistently shown improvement in preschool children's behavioral adjustment as

rated by classroom teachers and in their ability to generate alternative solutions and understand the consequences of those solutions in interpersonal situations. Further, both parents and teachers of inner-city preschoolers have been shown to be effective in training those children in ICPS skills. However, the three-month training period for these mothers is quite extensive and probably not feasible for many parents and trainers.

In an attempt to provide a more realistic parent training program, Weissberg's (1980) study of third grade children included a parent training component designed to teach parents the problem solving process and to encourage them to use problem solving dialoguing with their children. The six-session program was modeled after the class curriculum and included both didactic presentation and the discussion of child and parent problems in relation to the social problem solving program. However, due to poor parental attendance at the problem-solving meetings (only five parents out of 71 attended all six meetings), no conclusions could be made regarding parent-training and children's social problem-solving skills or adjustment gains.

This area appears to be essentially unexplored and provides potential promise for enhancing social problem solving classroom interventions. As noted by Spivack & Shure, "whether a child trained by both the teacher and a parent would dramatically strengthen the impact (of social

problem-solving training) is also worth study" (Spivack & Shure, 1985, p. 234). This notion is shared by Gesten & Weissberg (1986), as they observe that systematically training parents in social problem solving skills as an adjunct to classroom training has not been fully explored. Further, they believe that such a dual training approach appears in theory to be able to enhance the impact of skill acquisition and adjustment gains in children.

Recently Denham & Almeida (1987) conducted a meta-analysis assessing the social problem solving literature over the past 15 years. Their goal was to explore the relationships between social problem solving skills and behavioral adjustment and the effects of training on children's skills, social competence and actual social behavior. The authors evaluated 50 studies involving subjects aged 3 through 12 years. More importantly, the studies' independent variables, dependent variables, and conceptual premise had to be similar to those used in Spivack and Shure's (1972, 1978, 1980, 1982) research. Their analysis revealed that 1) scores on ICPS measures do differentiate between adjusted and non-adjusted children, 2) trained children do perform significantly better on ICPS skill measures at post testing than do control children, 3) observed behavior is rated significantly higher for trained children than for control children at post testing, and 4) there is a direct, although moderate, relationship between an increase in ICPS skills and rated behavioral adjustment.

Although this last finding is most encouraging, the authors qualify this result noting that the ICPS/adjustment link appears stronger for younger children and the overall statistical effects are not large. Further, they found a considerable difference between the effect size of research reported by Spivack/Shure and non-Spivack/Shure. This led them to suggest that there may be a body of clinical skills or specific components of training within the Spivack/Shure programs which are overlooked by other researchers. One component mentioned was the use of dialoguing. Denham & Almeida state, "It may be that researchers who found little effect of training (e.g., Sharp, 1981) did so because they purposely left out this training component" (p. 403). Further, Gesten & Weissberg (1986) strongly recommend that such generalization activities as dialoguing be actively promoted, so that adjustment gains will become more apparent. The researchers concluded that while meta-analysis has answered some of the questions related to social problem solving theory, continued replication and evaluation of training programs tapping a broader approach to improving social competence in children should be pursued.

In summary, the social problem solving studies with preschool-aged children indicate: 1) intellectual ability does not appear to affect social problem solving or behavioral adjustment gains (Shure & Spivack, 1982; Spivack, Shure, & Gordon, 1972; Shure, Spivack & Jaeger, 1971); 2)

consistent improvement in alternative solution thinking skills are found after ICPS training (Shure, Spivack, & Jaeger, 1971; Shure, Spivack & Gordon, 1972; Shure & Spivack, 1972a; Shure & Spivack, 1979; Sharp, 1981; Ridley & Vaughn, 1982; Winer et al. 1982, Shure & Spivack, 1982; and Vaughn, Ridley, & Bullock, 1984); 3) significant skill and behavioral adjustment gains are seen after training conducted by classroom teachers (Shure & Spivack, 1972a; Shure & Spivack, 1973; Shure & Spivack, 1979; Winer et al. 1982; and Feis & Simons, 1985) whereas, those studies (Sharp, 1981; Shure, Spivack, & Gordon, 1972; Ridley & Vaughn, 1982, 1983) not employing teachers as trainers found social problem solving skill gains but inconsistent behavioral change; and 4) significant social problem solving skill and behavioral gains were found in studies where dialoguing was used by the teacher/trainers (Shure & Spivack, 1979; Ridley & Vaughn, 1983; and Feis & Simons, 1985).

For Elementary-aged children, the Social problem-solving studies indicate: 1) no reported grade effects for the acquisition of social problem solving skills (eg. McClure et. al 1978; Weissberg, Gesten, Carnrike et al. 1981; and Marsh, 1982); 2) consistent improvement in alternative solution thinking skills are found after ICPS training (Shure & Spivack, 1972; McClure, Chinsky, & Larcen, 1978; Elardo & Caldwell, 1979; Gesten et. al 1982; Rains, 1978; and Alvarez et al. 1984); 3) short social problem

solving training programs (eight - nine weeks) have produced skill gains but no significant behavioral change (Gesten et al. 1982; Olexa & Forman, 1984; and Alvarez et al. 1984); 4) those studies which specifically mentioned the use of dialoguing found significant behavior change as well as social problem skill gains (Elardo & Caldwell, 1979 and Weissberg, Gesten, Carnrike et al. 1981); and 5) the impact of intellectual ability on social problem solving skills and behavioral adjustment remains unclear (Shure & Spivack, 1972; McClure et al. 1972; Rains, 1978; McKim et al. 1982; and Lochman & Lampron, 1986).

Chapter 3

Methodology

This intervention targeted second grade students and their teachers and parents, all of whom reside in Chesterfield County, Virginia. Chesterfield County is located in Central Virginia, directly south and adjoining the city of Richmond. The county is mostly suburban, although the extreme southern portions are somewhat rural. Over the past several years, Chesterfield County has experienced considerable growth, with it's present school population at approximately 43,000.

Six second grade classes from one elementary school (Kindergarten through fifth grade) in the northern portion of the county, (suburban, predominately white) were selected for treatment. Second grade students were chosen for three reasons. First, past studies by Spivack, Platt and Shure (1976), Weissberg (1980) and Gesten, Rains, Rapkin, Weissberg, Flores de Apodaca, Cowen & Bowen (1982) have reported greater changes in early elementary school-aged children's scores on measures of problem solving and behavioral adjustment after treatment compared to middle

school children. This appears to be due to the less well-established behavior patterns seen in younger as compared to older children. Second, second grade students spend almost all of the school day with the same teacher. This provides opportunities for problem solving dialogue throughout the day. Third, for the past eight years the Chesterfield County Schools have cooperated with the local community Mental Health Center's prevention service by engaging in social problem-solving training with second grade students. This experience provided ready access to teachers who were familiar with the Rochester Social Problem Solving Curriculum, administrators who were interested in the primary prevention model and mental health staff who were able to lend their valuable input and expertise to this investigation.

Students

The total student sample was 155 (mean size was 25 students per class). Two parents failed to return the consent forms prior to pre-testing and eight others denied consent for their children to participate in the data collection aspect of the investigation. This reduced the experimental sample to 145 students. The mean age of the students was seven years, one month, with a sex ratio of 45% boys and 55% girls. Other demographic data collected

revealed that 7% of the students were black, 91% white, 1% Indian and 1% Asian.

The original design included two experimental groups and one no-treatment control group. The first experimental group (E1) received instruction from their teachers in the Rochester Social Problem Solving Curriculum. The second experimental group (E2), consisted of those students who also received instruction in the Rochester Program and whose parents attended a four-session parent education program based on the Rochester Program. A third experimental group was formed of students whose parents were offered parent group training but chose not to attend. The no-treatment control group was exposed to the conventional social studies curriculum and received the Rochester Social Problem Solving Curriculum at the conclusion of the study in January. All parents were informed of this investigation by letter sent jointly by the principal and this researcher in mid-September (see Appendix A). Different letters were sent to the parents of those children who were assigned to either the experimental or control conditions. Attached to each letter was a consent form (one for the experimental and one for the control condition) and a confidential demographic questionnaire. Written permission was obtained from the parents of all students who were involved in the investigation. Follow-up letters and phone calls were made by the researcher to the parents who had not returned the

consent forms after one and two weeks. This follow-up resulted in 99% of all consent forms being returned.

Teachers

The six teachers involved in this study were randomly assigned to one of the three treatment conditions (E1- child training only, E2- child training plus parent training, and C- no treatment control). During the 1987-1988 school year five of the six second grade teachers attended a one-day training workshop conducted by Prevention staff from the Chesterfield County Mental Health Center. The training consisted of didactic instruction, small group activities and role plays. The teachers were introduced to the problem solving process, were provided with a history of social problem solving in Chesterfield County and were briefly informed of the efficacy research. It was stressed that the program is preventive in nature and thus major changes will not be seen in their students' behaviors during the training. The manual was reviewed in detail and the trainers addressed the practical aspects of program implementation. Finally, approximately two and one-half hours were spent on demonstrations and role plays which focused on how to teach the program lessons and to conduct dialoguing during non-lesson time. The trainers stressed the importance of dialoguing and encouraged teachers to use it whenever interpersonal conflicts arise in the classroom.

The sixth teacher was added to the second grade team for the 1989-1990 school year due to increased enrollment. She attended an identical training program by the Prevention Staff in September prior to the initiation of the study.

Parents

The parents of those children assigned to the second treatment group (E2) were invited by letter to participate in a parent program designed to improve their child's problem-solving skills when relating to peers. (See Appendix A) Two parent groups were offered at different times to meet the needs of the greatest number of parents. Twenty-five parents (50%) indicated interest in the parent program and after individual contact by the researcher three groups were offered (two evening groups and one daytime group). Although attempts were made to encourage participation in the parent program, the desired goal of equal representation from each of the two classes in the second treatment group (E2) was not obtained. Other interested parents from both the experimental and control groups were provided with parent training following the completion of the study.

Variables and Measurement Instruments

The following variables were assessed to measure program change in social problem solving skill level and

behavioral adjustment of the subjects: 1) Alternative solution thinking, and 2) Teacher-rated classroom behavioral adjustment.

Alternative Solution Thinking

Spivack and Shure (1974) proposed five ICPS skills (discussed in chapter 1). One ICPS skill, the ability to generate alternative solutions to interpersonal problems, has been found to: 1) discriminate between "adjusted" and "maladjusted" individuals (Spivack, Platt and Shure, 1976; Platt, Spivack, Altman, Altman and Peizer, 1974); 2) to be easily measured (Weissberg, 1980); and 3) be enhanced by social problem-solving training programs. Studies with preschool children (Spivack and Shure, 1974; Ridley and Vaughn, 1982) and elementary-aged children (Allen, Chinsky, Larcen, Lochman, & Selinger, 1976; Elardo and Caldwell, 1979; Gesten et al. 1982; Weissberg, 1980; Weissberg et al. 1981) have consistently shown significant post-training gains in children's skill at generating solutions.

Attempts to measure alternative solution thinking have produced a number of assessment measures. The earliest, developed by Spivack and Shure (1974), was the Preschool Interpersonal Problem-Solving (PIPS) test, which measures the child's ability to generate a variety of solutions to hypothetical interpersonal peer problems. The PIPS has consistently been used to measure changes in the alternative

thinking skills of trained vs. non-trained children from middle socioeconomic, suburban private schools and inner-city, low socioeconomic Headstart day-care centers.

Upward extensions of the PIPS test used with elementary children include the Alternatives-Consequences Problem-Solving Measure (Alvarez, Cotler and Jason, 1984), the Interpersonal Problem-Solving Test (Olexa and Forman, 1984) and the Knowledge of Interpersonal Problem-Solving Strategies Assessment (Asarnow and Callan, 1985). Each of these assessment measures has discriminated between trained and non-trained children in alternative solution thinking.

The instrument used in this study was the Open Middle Interview, (OMI) which was developed by the Rochester Social Problem-Solving Group (Polifka, Weissberg, Gesten, Flores de Apodaca and Piccoli, 1981). This instrument measures a child's ability to generate alternative solutions to interpersonal problems and has been widely used in social problem-solving research (Weissberg, 1980; Weissberg et al. 1981; Gesten et al. 1982; McKim et al. 1982). The OMI measures a child's ability to generate alternative solutions to age-relevant hypothetical peer problems. It consists of four problem stories which are individually administered by a trained evaluator. The OMI stories are presented pictorially in two-card sets, with a standardized verbal description. All verbal responses made by the child are recorded verbatim, clarifying which character the child is referring to in his/her answer.

The four OMI problem stories are: 1) A child wants to take the class gerbil home when another child says she/he also wants to take it home; 2) A youngster is teased about his new haircut; 3) A child wants to ride a bike which another child has had for a long time; and 4) A child breaks a friend's toy. (A copy of the OMI test is included in the appendix B)

After the child has responded to all four problem stories, he/she is asked two standardized "probe" questions for each story. This is designed to "test the limits" of a child's alternative solution thinking. Finally, the child is asked to select a solution from among the ones he/she has given that he/she would try if actually faced with the problem.

OMI Scoring

As described in the scoring manual, responses to the problem stories are scored according to category and effectiveness. The response categories include: 1) Alternative solutions - novel goal-directed actions taken by the story protagonist in response to the specific problem, and 2) Solution variants - variations on alternative solution themes already given to the same problem.

Each child's alternative solutions are rated for effectiveness on a five-point scale (1 - least effective to 5 - most effective). According to the manual (Polifka et

al. 1981, p. 5) "the criterion used for measuring effectiveness include the extent to which a solution maximizes possible consequences, minimizes negative consequences and is 'do-able' by the average eight or nine year-old".

The Open Middle Interview tests were scored by the researcher following post-testing.

The scoring manual provides inter-rater reliabilities using this system for the years 1979-1980 through 1980-81. The mean coefficients were: .97 for alternative solutions, .91 for solution variants, and average Pearson r of .97 for effectiveness.

Although The Open Middle Interview has been used by the Rochester social problem solving group since 1976 no published studies have been conducted on the validity and reliability of the OMI. Dr. Roger Weissberg (note 1) reported that the Rochester Social Problem Solving Research Group never formally evaluated the OMI as they were not test developers but rather were exploring social problem training variables related to children's adjustment. He reports that studies by Richard & Dodge (1982) and Asarnow & Callan (1985), as well as his own research have found consistent significant pre to post test changes on the OMI with children trained in social problem solving, where no significant changes were seen in the control groups. This he believes, is sufficient evidence to accept the OMI as a

useful measure of alternative thinking skills, which is a critical aspect of social problem solving.

In an unpublished master's thesis, Polifka (1980), a member of the Rochester Social Problem Solving Research Group, examined second through fourth grade student's performance on cognitive (Open Middle Test-OMT) and behavioral (Simulated Problem Situation-SIMPS) instruments to ascertain the relationship between these two instruments and the skills they measure. 158 children from low income, inner-city and middle SES suburban public schools were given both the OMT and the SIMPS as part of a larger social problem solving study. The OMT, which is a forerunner of the OMI, is designed to measure a child's cognitive problem solving skills. The SIMPS, on the other hand, presents a contrived interpersonal situation designed to assess a child's problem-solving skills in a simulated behavioral or role-play situation. This instrument was designed to address the arguments by such writers as Kohlberg (1969) that even though children can verbalize how to solve problems, they may not be able to do so in an actual interpersonal situation.

Polifka (1980) examined the correlations between the alternative solution thinking variables on these two instruments and found a significant ($p < .05$) relationship between them for suburban but not for urban children.

She believed that for the suburban group these results appear to support the hypothesis that cognitive and behavioral problem-solving performances are related.

The only other data available on the OMT is a similar comparison of subjects on the OMT and SIMPS. During 1977-1978 The Rochester Social Problem Solving group (note 2) reported a correlation of .25 ($p = .02$) between the alternative solution thinking variables on the OMT and SIMPS of 85 subjects.

While this research does not provide a strong argument for the efficacy of the OMT, it does suggest that the cognitive OMT measure mirrors a child's behavioral problem solving skills. As Weissberg, has stated, the OMT measures alternative solution thinking in response to a hypothetical situation. (note 1)

It is acknowledged that the OMI lacks psychometric rigor in terms of published validity studies. However, from a historical perspective, alternative solution thinking (measured by OMI-like tests) has been the variable measured to assess changes in social problem solving skill level in numerous studies dating back to Spivack & Shure's early 1970's work. From a theoretical perspective, if the intervention (instruction in social problem solving skills) is successful in teaching alternative solution thinking, then significant gains on the OMI should be seen from pretest to post test for the experimental groups. Concurrently, no significant difference should be seen from

pretest to post test for the control group children. This outcome has been obtained in previous studies by Weissberg (1980, 1981), Gesten et al. (1982), and Mckim et al. (1982).

Behavioral Adjustment

The hypothetical link between acquisition of cognitive problem-solving skills and children's social or behavioral adjustment requires assessment of their "social skills". Throughout the literature on social skills various methods are suggested for such assessment. These include: sociometric, self-report ratings, parent/teacher ratings, behavioral role-play or simulation and naturalistic observations. Of these, sociometric, parent/teacher ratings and naturalistic observations have been found to be most useful for assessment of children's social skills (Brockman, 1985; Gresham and Elliott, 1984). Two drawbacks of sociometric assessment are: 1) the ethical concerns over using negative criteria ("Name three children in your class you don't like.") and 2) the inability of these measures to pick up small behavioral changes due to the stability of children's sociometric ratings in the elementary grades.

Naturalistic observations are limited in use when low-frequency behaviors are important determinants of social status (Brockman, 1985). Also, there is the confounding factor of observer bias or inattention, which can affect the reliability and validity of the data collected. Finally,

the amount of time required for such observation may make the use of naturalistic observations an unrealistic option.

The method selected for use in this study for assessing the behavioral adjustment construct was teacher ratings. The Teacher-Child Rating Scale (T-CRS) (Hightower, Work, Cowen, Lotyczewski, Spinell, Guare & Rohrback, 1986) has been designed to measure quickly and reliably children's strengths and deficits in social, behavioral, academic and learning areas. According to Gresham and Elliott (1984), "Teacher ratings have been shown to be reliable, valid and useful methods for assessing children's social behavior. They are particularly useful for discovering potential behavioral correlates of social acceptance and rejection" (p. 296).

The T-CRS was developed from items on two teacher-rating scales: The Classroom Adjustment Rating Scale (CARS) and the Health Resources Inventory (HRI), which had been widely used by many school programs in conjunction with the Primary Mental Health Project early intervention programs. The test-retest reliabilities and validity of both scales have been studied several times (e.g. Lorion, Cowen and Caldwell, 1975) and are reported to be adequate. The T-CRS consists of two parts; part one has 18 behaviorally-oriented items describing school problems (e.g. disruptive in class, withdrawn, poor work habits), and part two has 20 items which assess a child's strengths and positive attributes (accepts limits, ignores teasing,

completes work, has many friends). The teacher rates each child on two different five-point Likert Scales corresponding to the two different scale parts. The first part is rated from 1 (not a problem) to 5 (very serious problem), while part two is rated from 1 (not at all) to 5 (very well). The time required to complete each scale is three to five minutes.

Based upon multiple factor analytic methods, three "conceptually meaningful clusters of minimally overlapping items" (Hightower et al., 1986, p. 8) were obtained for each part of the scale. The following subscales were reported for the 18 problem behaviors (Part one): Acting Out, Shy-Anxious and Learning Skills, which account for 75.6% of the total variance. The following subscales were reported for the 20 items on Part II of the scale: Frustration Tolerance/ Behavioral Limits, Assertive Social Skills and Task-Orientation/Educational Performance, which account for 74.6% of the total variance (Hightower et al. 1986). Procedures for scoring the scales when individual items are omitted by the teacher are included in the manual.

Two studies reported by Hightower et al. (1986) used teacher ratings of 353 and 1026 Kindergarten through sixth grade children to establish reliability, validity and normative information on the T-CRS. Pearson correlations between the T-CRS subscales and the CARS produced reliabilities of .72 to .89 and correlations between the T-CRS subscales and the HRI revealed a median reliability of

.69. Further, statistical analysis on several different samples of subjects (N's = 394, 263) revealed Cronbach's Alphas of .85 to .95 and 10 and 20 week test-retest reliability coefficients of .66 to .85.

Validity of the T-CRS was investigated (Hightower et al. 1986) by statistically comparing children who were identified as needing Primary Mental Health intervention programs and non-referred children matched by teacher, grade and sex. Children involved in the Primary Mental Health program were rated significantly less well-adjusted on all scales except Assertive Social Skills by their teachers. Also, correlations were obtained between the six T-CRS subscales and other measures such as the Metropolitan Achievement Test, State-Trait Anxiety Inventory for Children and the Teacher's Self-Control Rating Scale (Humphrey, 1982). The author reports 66 out of 78 correlations were significant ($p .05$), with high correlations between T-CRS scores and teacher rating of self-control and report card grades.

(A copy of the T-CRS may be obtained from the Primary Mental Health Project. See Appendix B).

Intellectual Ability

An estimate of intellectual ability of all children in the study was obtained from their student records. In the Fall of each school year, the Cognitive Abilities Test, Form

4 (CogAT) is administered to all first grade students in Chesterfield County. The CogAT is a group administered test which measures the development of cognitive skills of children in grades Kindergarten - third grade. The CogAT consists of six subtests which tap a child's verbal reasoning, quantitative reasoning and nonverbal reasoning and provides standard age scores (SAS) in each of these three areas. Nichols states that the SAS, "is the familiar IQ scale with a new name" (1978, p. 181). Given the highly verbal nature of the social problem solving process, only the Verbal Battery score will be used for this investigation. According to the Technical Summary, the Verbal Battery consists of three tests which require the child to use verbal concepts to solve a unique verbal task. The authors state, "All three of the tasks measure inductive reasoning and verbal abstract reasoning" (Thorndike & Hagen, 1986, p. 8).

The test publishers report a Kuder-Richardson reliability coefficient of .87 when using a sample of 12,459 first grade students. Test-Retest over a six month interval is also reported to be .77 for first grade students.

Criterion-related validity was demonstrated by correlations of the CogAT with the Iowa Test of Basic Skills. The composite correlations are in the high .80's for the Verbal Battery. In addition, Burros (1978), reports concurrent validity with the Stanford-Binet of .77 when correlated with the CogAT Verbal Battery.

The CoGAT was selected as an estimate of intellectual ability for two primary reasons. The first, and most obvious, is that the scores were readily available in the children's school records and did not involve the administration of an additional test to the children. Second, the Verbal Battery score of the CoGAT measures verbal abstract reasoning skills which are very similar to the verbal cognitive task required on the Open Middle Interview (OMI) (social problem solving variable). The verbal abstract nature of both the CoGAT and OMI would logically suggest a dependent relationship between the two. That is, the higher the verbal abstract reasoning skills the better the performance on the Open Middle Interview. However, previous research detailed in chapter two did not reveal a consistent relationship.

An argument could be made for alternative views of intellectual ability playing an even greater role in a child's social problem solving than verbal abstract reasoning skill. Sternberg (1984) recently postulated a broader definition of intelligence which encompasses three components: Practical Problem-Solving ability, Verbal ability and Social Competence. Both Practical Problem-Solving, which includes behaviors such as "reasons logically" and "responds thoughtfully to others' ideas", and Social Competence, which taps such behaviors as "accepts others for what they are" and "thinks before speaking" (p.26), may relate more closely to a child's ability to

solve interpersonal problems. These components appear to tap both the logical reasoning aspect and the social awareness aspect of the social problem solving process. However, at this time, Sternberg has only developed a prototype measure to assess these components of intelligence. Gardner (1983) has also developed a theory of intelligence which may be relevant to social problem solving research. In his book, Frames of Mind, (1983), Gardner proposes seven different "intelligences", of which the "Interpersonal" appears to be the most relevant to this research. He describes Interpersonal intelligence as "the ability to notice and make distinctions among other individuals" (p. 239). This is a form of information processing whereby an individual assesses the behavior, feelings and motivations of others. Successful political and religious leaders are believed to have highly developed Interpersonal intelligence. The ability to process social information and then respond quickly would enhance an individual's success at solving interpersonal problems. This form of intelligence appears to be closely related to the social problem-solving construct under investigation in this study. However, Gardner's theory of intelligence has not sufficiently evolved to the point of development of a measurement instrument. Thus, measurement of this specific intelligence was not possible.

Interventions

Class Curriculum

The four experimental classes were trained in social problem-solving skills via the Rochester Social Problem Solving program for second through fourth grade children (Weissberg et al., 1980).

The Rochester Social Problem-Solving Program was initially designed and implemented in six suburban Rochester area schools during the 1976-1977 school year. The original program was revised many times before publication of the most recent (1980) revision of the curriculum. During that time more than 100 suburban and urban second through fourth grade teachers have used the program with over 2,000 children. Each year important program modifications were made, based on teacher feedback and formal program evaluations (Weissberg, 1985).

Further, the program has been used in many studies (Weissberg, 1980; Gesten et al. 1982; McKim, Weissberg, Cowen, Gesten, & Rapkin, 1982; Weissberg et al. 1981; and others) in which significant pre-post test results were found in children's social problem-solving skills after training.

This curriculum is presented in a highly structured 34-lesson manual which provides the classroom teacher with a systematic method for the teaching of interpersonal problem

solving skills. The curriculum is divided into five major units:

Recognizing Feelings in Ourselves and Others (four lessons)

The Feelings unit teaches children what feelings are and how to recognize them in themselves and others. Through the use of games and role-plays they learn feelings are a normal part of life.

Problem Sensing and Identification (five lessons)

Children are introduced to interpersonal problems and taught that "a problem is something that happens between people that gives someone an unhappy or upset feeling." (p.VI) They are also taught that they are capable of solving most problems on their own.

Generation of Alternative Solutions (five lessons)

The primary objective of this unit is to teach children to generate many possible solutions to solving a problem. A form of brainstorming is encouraged and the judging of the quality of the alternatives is deferred until a later unit.

Consideration of Consequences (five lessons)

These lessons teach children to think ahead to what might happen next and to consider the personal and social

consequences of each solution. The quality of the solutions is evaluated during this unit.

Integration of Problem Solving Behavior (15 lessons)

This unit is the longest and most "applied". Children are instructed to consider the steps needed to carry out a solution effectively. Through use of small group discussion and role plays, the children will learn and practice the "when's, how's and what's" of using the social problem solving methods with actual problems.

Classroom Training Procedures

The original Rochester Social Problem Solving Curriculum was modified in 1980 by the Chesterfield County Mental Health Staff from 34 lessons to 25 lessons. The modified 25 lesson program was taught three times a week for 9 weeks by teachers trained as outlined above. This investigator served as on-site consultant and met with teachers on a bi-weekly basis to review upcoming lessons, resolve instructional difficulties and practice role-playing exercises. Also, to insure standardization of training procedures, the consultant observed each teacher of an experimental group three times using a structured observation form. This observation form was lesson-specific and allowed the consultant to assess how closely the teacher was following the lessons. Further, a random check of

student's problem-solving folders was made at the conclusion of the classroom program to check for completeness.

Parent Training Curriculum

The goal of training parents was twofold: to inform them of the overall problem-solving process, and to teach them to use problem-solving dialoguing with their children at home. The training consisted of four lessons, each focusing on a different yet related aspect of the problem-solving dialoguing process. The lesson descriptions are: Lesson 1) Overview of the problem-solving steps and why they are useful. Introduce the concept of reflective listening and practice this new skill. Lesson 2) The focus in this lesson is to introduce the problem-solving steps and integrate them with reflective listening. Parents will collectively and individually practice this procedure. Lesson 3) This session will allow parents to further practice and refine their use of the problem-solving steps with their children. Modeling and small group role plays will be used. Lesson 4) This lesson provides parents with the opportunity to integrate their problem-solving dialoguing skills and review all previous lessons. A discussion of problems in using this process was conducted and several final integrated role-plays were used. The parents were also asked to bring their second grade children for this last session and demonstrate a role play reflecting

an actual interpersonal problem. A detailed parent curriculum was developed and piloted during the spring of 1987. While written specifically for this research project, the Parent Curriculum is modeled after and adapted from earlier curricula written by such authors as Weissberg (1980) and Elias & Clabby (1986). The curriculum was also reviewed and critiqued by experienced parent group leaders for its feasibility and ease of use in parent education groups. (A copy is included in Appendix C)

Parent Training Procedures

The parents of those children assigned to the second experimental group (E2) were invited by letter to participate in a parenting program designed to improve their child's problem-solving skills when relating to their peers.

Following the work of Peine and Munro (1973) on behavioral contracting with parents, parents were charged a nominal fee for program materials and received a rebate for attendance. This procedure has been used by several researchers (e.g. Pinsker, 1977) and has produced attendance rates of 90.38% over an eight-session parent group.

In this study, the fee of \$15 was rebated in two equal installments, the first portion returned to the participants after they attended the first two sessions and the second portion returned after they attended sessions three & four.

One follow-up session was offered approximately two months after session four.

The parent program was taught by two prevention staff members from the Chesterfield County Mental Health Department and this researcher. The leaders have had extensive experience with both the social problem solving program and leading parent education groups. Two groups met in the evening and one during the school day. Two audio tape recordings were made by each leader during the four parent-training sessions and then evaluated by the researcher to determine the standardization and completeness of the training. A review of these tapes revealed that each leader followed the lesson format as prescribed and did not omit any important program aspects.

In order to measure parents' use of the problem solving process with their children, the following information was collected: Three written homework assignments given during the parent program were collected and checked for completeness. The final program evaluation form asked each parent to indicate the number of times they used the problem solving process with their children during a typical week. While this information consisted solely of self-report measures, it provided the researcher with some indication of the parents, actual use of the program techniques.

Procedures

Assessment

The OMI pre-tests were collected over a two week period during October by this investigator and a graduate student who was not involved in the experimental treatments and who was blind to treatment conditions. The graduate student was trained by the researcher to administer the OMI prior to the beginning of this investigation. Actual practice test administration was done on non-study children during the training. The post-tests were to be collected over a two week period during December, however, due to snow closings, only 75 of the 141 children were tested. The remainder of the post-tests were completed during the first week of January.

Children were taken individually by an examiner to a quiet room within the school and given the Open-Middle Interview test with the following explanation, "We are interested in the way children like you and the other boys and girls in your class think about things." Each child was given a small sticker at the conclusion of the test for his/her cooperation.

During the two week period of administration of the Open Middle Interview, the classroom teachers completed the Teacher-Child Rating Scale (T-CRS) on each child. The Teacher Child Rating Scales were coded and blindly scored by the researcher after post-testing.

Specific Research Hypotheses

- Hypothesis 1: There will be no significant correlation between intellectual ability and social problem-solving skills.
- Hypothesis 2: Children who receive social problem solving classroom training will display greater gains in social problem-solving skills than non-trained children.
- Hypothesis 3: Children who receive social problem-solving classroom training and whose parents also participate in the social problem-solving training program will display greater gains in social problem-solving skills than children who receive classroom training only.
- Hypothesis 4: Children who receive social problem solving classroom training will display greater gains in teacher-rated behavioral adjustment than non-trained children.
- Hypothesis 5: Children who receive social problem-solving classroom training and whose parents also participate in the social problem-solving training program will display greater gains in teacher-rated behavioral adjustment than children who receive classroom training only.

Hypothesis 6: There will be no significant correlation between children's social problem-solving skill gain and teacher-rated behavioral adjustment as a result of training.

Chapter 4

Results

The results are presented in two main sections:

- a) an examination of the pre-training comparability of the treatment groups and
- b) systematic examination of each of the five research hypotheses.

Pre-Training Group Characteristics

Subjects in each of the three experimental and one control group were compared to determine the equivalence of the groups prior to treatment. The characteristics examined were the demographic factors of age, sex, race, and parent's marital status, and the presence of handicapping condition, birth order and verbal cognitive ability. Table 1 presents the descriptive statistics for the demographic factors.

Insert Table 1 about here

The demographics reveal that the subjects involved in this study were predominately white (93%), seven and a half year olds from intact families (92% of parents have never

Table 1

Descriptive Statistics for Demographic Variables

	Control Group	Classroom Training	Class/Parent Training	Class/No Parent Training	\bar{X}
N	48	51	21	25	
Variable					
AGE * (in months)	90	91	95	93	92
SEX					
M	44%	43%	38%	56%	45%
F	56%	57%	62%	44%	55%
RACE					
White	94%	92%	95%	88%	93%
Black	4%	6%	5%	8%	6%
Other	2%	2%	-	4%	1%
MARITAL STATUS					
Never Divorced	83%	96%	100%	96%	92%
Divorced/ Remarried	17%	4%	0%	4%	8%
HANDICAPPED					
No	100%	96%	95%	88%	96%
Yes	0%	4%	5%	12%	4%
BIRTH ORDER					
First	48%	53%	29%	48%	47%
Second	35%	39%	52%	28%	38%
Third	10%	4%	14%	24%	11%
Fourth	6%	4%	5%	0%	4%
VERBAL COGAT					
Mean	117	116	113	110	115
SD	13.6	12.2	12.3	11.7	12.7
SES					
Upper	50%	55%	71%	52%	55%
Upper-Mid	44%	43%	29%	48%	42%
Middle	4%	2%	0%	0%	2%
Lower	2%	0%	0%	0%	1%

* F = .004, 3/144.

been divorced), who were in the Upper to Upper Middle social class (42% and 55% respectively). Few were handicapped (4%) and their verbal cognitive ability was above average (standard score of 115). Analysis of Variance and Chi-Square by treatment group revealed significant pretreatment differences on only the age demographic variable ($F = .004, 3/144$). This variable was treated as a co-variate in all data analysis.

Pretreatment dependent variable scores were also examined for comparability. The Open Middle Interview (OMI) was used to assess two key interpersonal problem-solving skills: Alternative Solutions - the total number of novel solutions, that is, solutions rated "2" on the three point rating scale, generated by the subject in response to a specific interpersonal problem, and Effectiveness - the "do-ability" of the solution by the average 8 or 9 year old. For each subject the Alternative Solutions score is the total number of all novel solutions across the four problem stories. The Effectiveness score is the total number of solutions obtaining an effectiveness rating of greater than three (3).

The Teacher-Child Rating Scale (TCRS) was used to assess two key behavioral adjustment factors: Competency and Problem. For the Competency factor, the teacher rated each subject on a 5-point Likert Scale range from 1 (not at all) to 5 (very well). The higher the score, the "more competent" the subject is seen by the teacher. For the

Problem factor, the subjects are again rated on a 5-point scale ranging from 1 (not a problem) to 5 (very serious problem). The lower the score the better "adjusted" the subject.

Table 2 presents the descriptive statistics for the pretreatment scores for both dependent measures.

Insert Table 2 about here

Post hoc analysis of the adjusted mean scores using the WSD (Tukey) procedure reveals that all groups were equivalent on both social problem-solving dependent variables at pretest. However, for both the TCRS Problem and Competency variables, equivalence is seen between the control group, the classroom/parent training group and the classroom/no parent training group. The classroom training group was significantly different from the other groups. To control for these pretreatment discrepancies a repeated measures design was selected for data analysis.

Research Hypotheses:

The first hypothesis of this study states that there will be no significant correlation between intellectual ability and social problem-solving skills. Pearson product-moment correlations were performed comparing

Table 2

Pretreatment Descriptive Statistics
for Dependent Variables

	Control Group	Classroom Training	Class/ Parent Training	Class/ No Parent Training	\bar{X}
N	39	46	19	20	
Social Problem Solving Alternatives					
Raw Scores \bar{X}	9.36	8.59	9.74	9.85	9.20
SD	2.70	2.29	2.73	1.98	2.47
Adjusted Means	9.50 ^a	8.69 ^a	9.63 ^a	9.84 ^a	---
Effectiveness					
Raw Scores \bar{X}	6.85	6.54	6.79	7.20	6.78
SD	2.73	2.66	2.23	2.40	2.56
Adjusted Means	6.87 ^b	6.57 ^b	6.82 ^b	7.20 ^b	---
Behavioral Adjustment Problem					
Raw Scores \bar{X}	24.36	33.11	28.68	28.40	29.31
SD	8.25	13.23	10.06	11.91	11.85
Adjusted Means	25.26 ^c	33.72	28.35 ^c	27.57 ^c	----
Competency					
Raw Scores \bar{X}	71.69	64.37	75.19	72.80	68.59
SD	10.35	13.47	12.81	13.19	12.97
Adjusted Means	71.13 ^d	64.11	75.40 ^e	74.23 ^{de}	----

(letters = equivalent groups, WSD = p. < .05)

subjects' pre and posttreatment social problem-solving scores and their verbal Cognitive Ability Score (CogAT). The results are presented in Table 3. It can be seen that all correlations contained in Table 3 are low and range

Insert Table 3 about here

from $-.0142$ to $.0265$. No significant relationship was evident between ability and the social-problem solving dependent measures. Since none of the correlations were significant the first hypothesis is accepted.

The second hypothesis states that children who receive social problem-solving training will display greater gains in social problem-solving skills than non-trained children. Treatment effects on subjects' problem-solving performance was analyzed using Repeated Measures Multivariate Analysis of Covariance (MANCOVA) for the two social problem-solving dependent variables by treatment condition, covarying verbal ability and age (See Table 4). The results indicate no significant differences (GPID $p.= .310$)

Insert Table 4 about here

Table 3

Correlations Between Verbal Cognitive Ability
and Social Problem-Solving Skills

	Social Problem-Solving			
	<u>Alternatives</u>		<u>Effectiveness</u>	
	Pre	Post	Pre	Post
CogAT	.0265	-.0957	-.0643	-.0142

Table 4
Repeated Measures MANCOVA
for Social Problem-Solving Variables

Alternatives	SS	DF	MS	F	p
Between Subjects					
GPID	34.95	3	11.65	1.21	.310
Within Cells(error)	1139.03	118	8.97		
Regression	17.93	2	8.97	.93	.398
Within Subjects					
Time	669.78	1	669.78	137.18	.001
GPID * Time	94.00	3	31.33	6.42	.001
Within Cells(error)	585.88	120	4.88		
Effectiveness					
Between Subjects					
GPID	49.65	3	16.55	1.56	.203
Within Cells (error)	1252.74	118	10.62		
Regression	1.91	2	.96	.09	.914
Within Subjects					
Time	384.36	1	384.36	87.27	.001
GPID * Time	85.83	3	28.61	6.50	.001
Within Cells(error)	528.54	120	4.40		

between (subjects) treatment groups as a result of treatment (GPID is the abbreviation for group assignment). Also, lack of a significant regression term indicates that the covariates, age and verbal cognitive ability have no significant effect on the two social problem-solving dependent variables. Further, Table 4 reveals significant differences ($p. < .001$) within subjects' time and GPID by time interaction for both variables. This result indicates that there is a significant interaction between treatment conditions and time (pretesting to posttesting) for both social problem-solving variables. Posthoc Tukey WSDs were performed to determine significance between treatment groups and within groups from pretreatment to posttreatment (See Table 4.1). For Alternatives, significant differences ($p. < .05$) were seen from pretest to posttest for all three treatment groups and for the control group. For the effectiveness variable, significant differences ($p. < .05$) were again seen from pretest to posttest for all three

Insert Table 4.1 about here

groups and for the control group. This indicates that all groups generated significantly more alternative solutions and produced significantly more solutions with an effectiveness rating of > 3 following training. However, at pretest no significant differences were seen between groups

Table 4.1

Post Hoc Group Comparisons
by Treatment Condition
(Adjusted Means)

<u>Alternatives</u>	Control	Classroom Training	Class/Parent Training	Class/No Parent Training
	a	a	a	a
Pre	9.50	8.69	9.63	9.84
	c	b	bc	b
Post	11.66	13.81	12.90	13.50

<u>Effectiveness</u>	Control	Classroom Training	Class/Parent Training	Class/No Parent Training
	d	d	d	d
Pre	6.87	6.57	6.82	7.20
	e	f	f	e
Post	8.41	10.16	11.10	8.55

(Letters = equivalent groups, WSD = p. < .05)

(Lines = significant pre to post gains, WSD = p. < .05)

whereas at posttest significant differences were evident. For the Alternatives variable the classroom training and classroom/no parent training groups obtained significantly higher scores than the classroom/parent training and control group at posttest. For the Effectiveness variable, significantly greater gains were evident for the classroom and classroom/parent training groups as compared to the classroom/no parent training and control groups. Given that two of the three treatment groups on each of the two dependent measures demonstrated significant gains, the second hypothesis is only partially supported.

The third hypothesis states that those children who receive the social problem classroom training and whose parents also participate in the social problem-solving training program will display greater gains in social problem-solving skills than children who receive classroom training only.

Table 4.1 reveals that at posttest, the classroom training group and the classroom/parent training condition were equivalent for the two social problem-solving dependent variables. Therefore, the third hypothesis is not supported.

The fourth hypothesis states that those children who receive social problem-solving classroom training will display greater gains in teacher-rated behavioral adjustment

than non-trained children. Treatment effects on subject's behavioral adjustment was analyzed using Repeated Measures Multivariate Analysis of Covariance (MANCOVA) for the two behavioral adjustment dependent variables by treatment condition, covarying verbal ability and age (See Table 5). The results indicate significant differences

Insert Table 5 about here

(Problem, $p. = .028$; Competency, $p. = .007$) between treatment groups as a result of treatment. For both the Problem and Competency variables, a significant regression term indicates that the covariates, age and verbal cognitive ability, have a significant effect on the two behavioral adjustment dependent variables. Further, Table 5 reveals significant differences ($p. < .020$) within subjects time and GPID by time interaction for the Problem variable while only the interaction of GPID and time is significant ($p. < .001$) for the Competency variable. These results indicate that there is a significant interaction between treatment conditions and time (pretesting to posttesting) for both behavioral adjustment variables. Posthoc Tukey WSDs were performed to determine significance between treatment groups

Table 5
Repeated Measures MANCOVA
for Behavioral Adjustment Variables

<u>Problem</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Subjects					
GPID	1652.07	3	550.69	3.13	.028
Within Cells(error)	20783.36	118	176.13		
Regression	1746.90	2	873.45	4.96	.009
Within Subjects					
Time	174.65	1	174.65	5.54	.020
GPID * Time	462.02	3	154.01	4.88	.003
Within Cells(error)	3785.38	120	31.54		
Competency					
Between Subjects					
GPID	2782.30	3	927.43	4.23	.007
Within Cells (error)	25871.04	118	219.25		
Regression	3878.97	2	1939.49	8.85	.001
Within Subjects					
Time	73.53	1	73.53	1.64	.202
GPID * Time	1458.76	3	486.25	10.87	.001
Within Cells(error)	5368.94	120	44.74		

and within groups from pretreatment to posttreatment (See Table 5.1). For the Problem variable, all three

Insert Table 5.1 about here

treatment groups improved as their scores decreased from pre to post while the control group scores increased. Significant differences ($p. < .05$) were seen from pretest to posttest for the classroom training and classroom/parent training treatment groups. This indicates that these two groups were rated as having significantly fewer problems following training. Further, at pretesting significant differences were seen between the groups. The classroom training group was rated as having significantly more problems than the classroom/parent, classroom/no parent and control groups. However, at posttesting there was no significant difference between the control and classroom training group, between the control and the classroom/no parent training group or between the classroom training and the classroom/parent training groups. For the Competency variable, all three treatment groups improved as their scores increased from pre to post while the control group scores decreased. Significant differences ($p. < .05$) were seen from pretest to posttest for the classroom training and control groups. However, the significant changes in mean scores were in opposite directions. For the control group,

Table 5.1

Behavioral Adjustment Post Hoc Group
Comparisons by Treatment Condition
(Adjusted Means)

<u>Problem</u>	Control	Classroom Training	Class/Parent Training	Class/No Parent Training
Pre	25.26 ^a	33.72	28.35 ^a	27.57 ^a
Post	27.70 ^{bd}	30.01 ^b	24.76 ^c	25.16 ^{cd}
<u>Competency</u>	Control	Classroom Training	Class/Parent Training	Class/No Parent Training
Pre	71.13 ^e	64.11	75.40 ^e	74.23 ^e
Post	66.09 ^f	70.85 ^f	76.51 ^g	76.13 ^g

(Letters = equivalent groups, WSD = p. < .05)

(Lines = significant pre to post gains, WSD = p. < .05)

students were rated as significantly less "competent" at the posttest (mean score decreased from 71.13 to 66.09), while the classroom training group was rated a significantly more "competent" following training (mean score increased from 64.11 to 70.85). Also, at pretesting significant differences were seen between the groups since the classroom training group was rated as being significantly less competent than the classroom/parent, classroom/no parent and control groups. However, at posttesting there was no significant difference between the control and classroom training group and between the classroom/parent training and the classroom/no parent training groups. In summary, following training all treatment groups improved on both behavioral adjustment variables while the control group did not. Significant pre to posttest gains were seen for two of the three treatment groups for the Problem variable and on one of the three treatment groups for the Competency variable. Posttest group comparisons reveal significant differences for one of the three treatment groups for the Problem variable and two of the three treatment groups for the Competency variable. Given these results, the fourth hypothesis is only partially supported.

The fifth hypothesis states that children who receive social problem-solving classroom training and whose parents also participate in the social problem-solving training program will display greater gains in teacher-rated

behavioral adjustment than children who receive classroom training only.

Table 5.1 reveals that at posttest, for both behavioral adjustment dependent variables, the classroom/parent training groups were significantly different from the classroom training group. However, for both variables the classroom/no parent training group was also significantly different from the classroom training group and equivalent to the classroom/parent training group. For the fifth hypothesis to be supported, a significant difference must be seen between the class/parent training group and both the classroom training and classroom/no parent training groups since these subjects received only the classroom training. Thus equivalence between these two groups does not support this hypothesis. Thus, the fifth hypothesis is not supported.

The sixth hypothesis states that there will be no significant correlation between children's social problem-solving skill gain and teacher-rated behavioral adjustment as a result of training. Table 6 presents Pearson product-moment correlations between subjects' pre and posttreatment scores (pairwise deletion of missing

cases) on the social problem-solving and behavioral adjustment dependent variables.

Insert Table 6 about here

Table 6 reveals that significant relationships were evident between subjects' Problem posttreatment score and their Effectiveness posttreatment score ($p = .01$), and between their Competency posttreatment scores and their posttreatment Alternatives ($p = .01$) and Effectiveness ($p = .001$) scores. No significant correlation was seen between subjects' posttreatment Problem score and their posttreatment Alternatives score. The negative correlation between age and cognitive ability is due to fact that this correlation compares subjects' age to their standardized grade scores and not to their raw scores. This indicates that the older subjects in this study tended to do less well than younger subjects as compared to the second grade normative sample.

Given that three of the four posttreatment correlations were significantly different from zero, the sixth hypothesis is rejected.

Table 6

Pearson Product-Moment Correlations Between Social Problem-Solving and Behavioral Adjustment

	Problem-Solving				CogAT	AGE
	Alternatives		Effectiveness			
	Pre	Post	Pre	Post		
Behavioral Adjustment						
Problem						
Pre	.0156	.1588	-.0449	-.1802	-.2545*	.1161
Post	.1289	.0627	.0030	-.2474*	-.2194*	.0646
Competency						
Pre	.1414	-.0291	.1245	.1855	.2076	.0516
Post	.1174	.2449*	.0578	.2966**	.3246**	.0064
CogAT	.0265	-.0957	-.0643	-.0142	1.000	-.3556**
Age	.0048	.2356*	-.0529	.0999	-.3556**	1.000

(* = .01 ** = .001)

Chapter 5

Discussion

This discussion examines the findings for each of the research hypotheses: (1) the impact of the intervention on the subjects' social problem-solving skills, (2) the impact of the intervention on the subjects' behavioral adjustment, (3) the impact of parent training, (4) the relationship between intellectual ability and social-problem solving skills, and (5) the relationship between social problem-solving skills and behavioral adjustment. Finally, practical implications of the results and suggestions for future research will be presented.

Social-Problem Solving Skills

Classroom instruction in Social Problem-Solving by teachers produced significantly greater increases in social problem-solving skills for subjects in the classroom training, classroom training/parent training and classroom/no parent training groups than for subjects in the control group. These findings are consistent with prior studies by Shure & Spivack (1972a); Shure & Spivack (1973);

Spivack & Shure (1974); Winer et al. (1982); Weissberg et al. (1980); Olexa & Forman (1984); and Gesten et al. (1979) which suggests that social problem-solving training improves children's alternative solution thinking and their ability to give more effective solutions. Significant improvement in solution effectiveness for the classroom and classroom/parent training groups as compared to the control group is particularly encouraging given that this skill has been proposed as a more relevant and crucial skill for children from middle income families (Polifka, 1980, Spivack et al. 1976). These results substantially support the hypothesis that significant increases in the subject's social problem-solving skills would be seen as a result of training. However, the lack of significant differences between the classroom/parent training and control groups for the Alternatives variable and lack of significant differences between the classroom/no parent training and control groups is confusing. Since all treatment groups received the identical classroom problem-solving curriculum, one would expect significant differences on these two problem-solving variables for all three treatment groups. This result was not obtained.

Teacher differences in the delivery of the lessons and the frequency of dialoguing in the classroom may explain these results. Given the importance of dialoguing (Spivack & Shure, 1985) on the acquisition of social problem-solving skills, the teachers were asked to keep a daily frequency

tally of dialogues which occurred during non-lesson time. A review of these tally sheets reveals no significant difference among the four experimental teachers. The teachers were also observed teaching three lessons as a check of program consistency. Qualitative evaluation of the observation forms reveals differences in the quality of presentation of the lessons by the classroom training teachers as compared to the classroom/parent/no parent training teachers. The two teachers assigned to the classroom training were better prepared, enhanced the lessons with stories or related them to situations and activities in the class and in general appeared to deliver the lessons more convincingly. It is possible then, that differences among the groups on the social problem-solving variables were partially due to teacher differences.

Behavioral Adjustment

It was hypothesized that children who were trained in social problem-solving skills would display gains in their behavioral adjustment as rated by classroom teachers. In this study statistically significant gains were found for both behavioral adjustment variables. Posthoc analysis revealed that all treatment groups improved on both behavioral adjustment variables while the control group did not. Further, significant pre to posttest results were obtained on the Problem variable for subjects in the

classroom and classroom/parent training groups while similar pre to posttest gains were seen on the Competency variable for subjects in the classroom training group. Thus, classroom teachers rated the subjects who received classroom training and also the subjects who received training and whose parents also attended training as displaying fewer "problems" following training. They also viewed the subjects who received classroom training as more "competent" following training. Of additional interest is the significant pre to posttreatment change on the Competency variable for the control group. Teachers rated these subjects as significantly less competent at posttest than at pretest.

The most obvious interpretation of these results is that as a result of exposure to the social problem-solving curriculum, students were viewed by their teachers as more "competent" and having fewer "problems". Also subjects who did not receive the problem-solving program were viewed by their teachers as less competent. This replicates Weissberg's (1980, and Weissberg et al. 1981) studies with suburban children and Elardo and Caldwell's (1979) study with urban children where behavioral adjustment gains were found at posttest. Further, it is consistent with Spivack, Platt and Shure's (1976) theory that there is a relationship between a child's social problem-solving skills and behavioral adjustment. However, these results are not unqualified given the lack of significant pre to

posttreatment gains on the Problem variable for the classroom/no parent training group and the failure to find significant pre to posttreatment gains on the Competency variable for the classroom/parent and classroom/no parent training groups.

Another interpretation of these results which has been cited frequently in the literature (Sharp, 1981; Gesten et al. 1987) is teacher bias in completing the rating scales. To control for this, the teachers were kept unaware of which subjects' parents actually attended the training and which did not. However, it was impossible to prevent the students from discussing with the teachers their parents "coming to school for a meeting". Also, completion of the rating scales occurred 14 weeks apart and the posttreatment ratings were completed 7 weeks after the last parent training session. Nevertheless, the teachers were aware that the students' parents would be asked to attend parent training and this may have biased their ratings.

However, an examination of the group means reveals decreases in the "Problem" scores and increases in the "Competency" scores from pre to posttreatment for all trained subjects as compared to the control group, whose Problem scores increased and Competency scores decreased. Such a result questions the teacher bias argument given the improvement seen by all of the treatment groups. While these results suggest that the positive gains are due to treatment effects an equally viable explanation is teacher

bias in rating as a result of participation in the intervention and the expectation for student change.

Parent Training

It was hypothesized that as a result of the combination of classroom and parent training, significant changes would be seen in both cognitive problem solving skill and behavioral adjustment. For both the social problem-solving and behavioral adjustment data, the addition of parent training did not significantly improve subject's cognitive skills nor teacher-rated behavioral adjustment.

Possible explanations for these results include the shortness of parental training and the time interval between end of training and posttreatment assessment. The parent training program was four-90 minute sessions in length and although it included both didactic and demonstration/behavioral practice, this may not have given parents sufficient exposure to the social problem-solving principles and skills to impact positively on their children's cognitive and behavioral adjustment. Although the parents' evaluation of the program was positive, they suggested adding more role-play activities and video demonstrations of the problem-solving process to the training program. Self-reports of the average use of the process at home were in the range of only two to four times per week. Thus a longer and more "behavioral-rehearsal" approach to training

in which the parents would demonstrate these skills during the group sessions may have produced better results.

A second explanation may be the time between completion of parental training and posttreatment assessment. Just seven weeks passed between the end of parental training and posttesting and within this time teacher - student interaction was reduced due to Thanksgiving and Christmas vacations. Thus, sufficient time may not have elapsed to allow integration of the social problem-solving practices fully within the home setting which could, in turn, impact on the subject's cognitive and behavioral adjustment. This rationale is supported by Gesten et al. (1987) who recommends that behavioral adjustment ratings not be collected too close to training so that skills may have sufficient time to affect adjustment and/or for changes in student behavior to impact on teacher perceptions of the student's reputation. This contention would be valid only if the parents and teachers continue to practice social problem-solving at home and in school.

In conclusion, this research does not support the use of parental training as a means of increasing children's social problem-solving skills or behavioral adjustment.

Intellectual Ability

Pearson product-moment correlations comparing pre and posttreatment dependent variable scores and verbal cognitive

ability produced significant negative correlations for the behavioral adjustment Problem factor score at pre and posttreatment. A significant positive correlation was also seen for the behavioral adjustment Competency factor score at posttreatment. This indicates that for the Problem factor, a higher verbal cognitive ability score was associated with less "problems" on the behavioral adjustment measure and for the Competency factor, a higher verbal cognitive ability score was associated with a subject who was viewed as more "competent". These results are consistent with the high correlation between the Teacher-Child Rating Scale and standardized achievement tests (Hightower et al. 1986).

In contrast to the behavioral adjustment data, but consistent with prior findings (Spivack 1973; Shure & Spivack, 1972; McClure et al. 1978; Gesten et al. 1982a; Lochman & Lampron, 1986; Tisdelle & St. Lawrence, 1986), no statistically significant correlations were seen for either of the social problem-solving variables, indicating that verbal cognitive ability is not related to a subject's skill at solving interpersonal problems. Once again, Spivack's (1973) early contention that cognitive problem solving skills are not related to a child's cognitive ability is supported.

Social Problem-Solving Skills and Behavioral Adjustment

Social problem-solving skill / behavioral adjustment gains were related in this study. An examination of these correlations reveals significant relationships between subject's posttreatment scores on the behavioral adjustment Competency variable and their Alternative and Effectiveness scores. A significant correlation was also seen between subject's posttreatment scores on the behavioral adjustment Problem variable and their Effectiveness score. These correlations support the social problem-solving skill / behavioral adjustment mediation link hypothesized by Spivack & Shure (1974 & 1976).

The success of this intervention in producing a positive problem-solving / adjustment relationship is believed to be due to the use of teachers who were experienced in social problem-solving, the emphasis placed upon dialoguing by teachers and the age of the students. Dialoguing was not only emphasized during teacher training but teachers were held accountable for dialoguing as they were required to record its frequency on a daily tally. The teachers' subjective reports and completed tallies revealed that dialoguing occurred on an average of four times daily in addition to the formal lesson presentations. Further, the students in this intervention were young (mean age 7 years, 1 month) in comparison with previous studies (Olexa & Forman, 1984; and Alvarez, Cotler & Jason, 1984). Only two

studies reviewed in Chapter 2 included similar-aged children. Gesten et al. (1979) examined second and third grade children, but they did not include dialoguing in their intervention and Weissberg et al. (1981) whose intervention included dialoguing but whose data analysis was performed on their combined sample of second to fourth grade children. Shure & Spivack (1979) and Feis & Simons (1985) have found the skill/adjustment link with preschoolers but not with older children. This result is consistent with Denham & Almeida's (1987) finding that the skill/adjustment link was stronger for younger children. A possible explanation for a stronger skill/adjustment link for younger children is the notion of malleability. That is, younger as compared to older children have less well-established patterns of behavior and are more accepting of behavior change. Therefore cognitive/behavioral interventions with younger children are likely to be more successful in obtaining behavior change than similar interventions with older children.

Possible Future Research

The present findings suggest several new directions for future social problem-solving training and research. Spivack & Shure's social problem-solving theory is built upon the principle that effective problem-solving (and adjustment) requires not just one, but many interrelated

skills. Little research has been conducted which examines the factors or characteristics of problem-solvers and the set of skills related to adjustment. McKim et al. (1982) contends that cognitive development and cultural background appear to be two of these factors. Thus lack of consistent cognitive skill differences between groups following treatment in this study may be related to the interplay of the subjects' age, ability level, and cultural background (Weissberg & Gesten, 1982). D'Zurilla and Goldfried (1971) also suggested that problem-solving was a method of self-control so that the individual can generate the most effective response to a problem before responding. Thus, research comparing such subject characteristics with performance on various measures of social-problem solving skill may clarify these relationships.

Another research direction is to explore methods by which to generalize social problem-solving skills beyond the training sessions (Gresham, 1985). The two techniques used in this study, dialoguing and parent training, attempted to maximize generalization of problem-solving skill behaviors to improve behavioral adjustment. It is believed that the use of dialoguing by classroom teachers was instrumental in producing behavioral adjustment changes and in producing a positive relationship between skill gain and adjustment in trained subjects. However, lack of consistent significant pre to posttreatment gains for all treatment groups suggests the need for additional research involving generalization

techniques. In the school setting, a uniform approach to problem solution by all teachers (resource personnel such as art and music teachers) who come into contact with the students and/or the introduction of problem-solving training at earlier ages (ie. Spivack & Shure's preschool/Kindergarten programs) may improve generalization.

The parent training component used in this study was written and compiled by the researcher. While the four-session program contained didactic and behavioral practice elements, the parents suggested adding more role-play activities and video demonstrations of the problem-solving process. Similar to the development of the classroom training curriculum, research examining the length, content and method for presentation of a parent training component is necessary to produce the most effective program. In light of the lack of consistent cognitive skill and adjustment changes in this study, perhaps a longer and more "behavioral-rehearsal" approach to training, in which the parents would demonstrate these skills during the group sessions and receive feedback would produce stronger parental dialoguing skills and significant posttreatment skill and adjustment changes.

The use of a longer time interval between the end of training and posttesting may also reveal greater skill and adjustment gains. In this study sufficient time may not have elapsed following the parent training to allow integration of these skills fully within the home setting in

order to impact on the children's behavioral adjustment. Techniques to ensure continued parental dialoguing such as follow-up sessions, audio tape recordings of parent/child dialogues or parent and child self-reports of dialoguing would need to be investigated.

Additional research is also needed in developing more measurement instruments related to social problem-solving assessment. Critics of social problem-solving research (Gresham, 1985, Tisdelle & St. Lawrence, 1986) consistently point to the lack of psychometrically sound instruments. The most frequently used measure of alternative solution thinking skills is the Open Middle Interview. Although used in research studies since 1976, no published studies have been conducted on the reliability, validity or standardization of this test. In addition, Gresham (1985) and Weissberg & Gesten (1982) call for more psychometrically sophisticated and varied assessment techniques such as measures of peer acceptance, parent ratings, naturalistic observations, and simulated role-plays.

Educational & Counseling Implications

The present study examined different methods of training on second-grader's acquisition of social problem-solving skills and behavioral adjustment. In general, significant gains in trained subjects' problem-solving skill and adjustment scores suggest that the

social problem-solving training program is effective in enhancing these skills. The success of the intervention is believed to be due to the experience of the classroom teachers in teaching the curriculum and their use of dialoguing throughout the school day. Teacher skill and dialoguing (which are interrelated) appear to be critical variables in social problem-solving training and the omission of these variables result in non-significant behavioral adjustment changes (Gesten et al. 1979; Olexa & Forman, 1984; Alvarez, Cotler & Jason, 1984; and Sharp, 1981); whereas inclusion results in significant behavioral adjustment changes (Weissberg et al. 1981, Ridley & Vaughn, 1983; Shure & Spivack, 1979).

The problem-solving skill / behavioral adjustment link found in the present study was also believed to be due to the effects of dialoguing (which enabled the students to apply the cognitive skills to daily interpersonal conflicts) and the age of the subjects. This is consistent with Denham & Almeida's (1987) finding that the skill/adjustment link was stronger for younger than older children.

Dialoguing as advocated by Shure (1975) is successful at improving behavioral adjustment because it is a behavioral rehearsal technique which encourages behavioral practice of the cognitive problem-solving steps during an actual ("in vivo") interpersonal problem. While the parent training component was also designed to improve behavioral adjustment, being an indirect instructional method it had

less direct impact on the child's behavior. Parent training is beneficial to the generalization of problem-solving skill and behavioral change in that the parents are aware of an alternative method of solving interpersonal problems and can encourage and reinforce such behavior. However, successful parent training is difficult given that long term, substantial changes in parental interaction with their children occur slowly, and such changes are often difficult to measure.

While the effects of dialoguing are believed to be critical to the outcome of this study, there are other child-related characteristics which may be interrelated. For example, the sociodemographic characteristics of the present subjects (white, upper to upper-middle class, suburban, above average cognitive ability) are unique in comparison to previous studies with mixed SES, urban and suburban subjects (McKim et al. 1982; weissberg et al. 1981; Elardo & Caldwell, 1979). Given the lack of a skill/adjustment link in those previous studies, the apparent effect of dialoguing may be specific to this upper-middle suburban sample. Perhaps the more important characteristic is that higher SES families may be more accepting and encouraging of children's attempts at trying alternative social problem-solving methods than lower SES families (Yu et al. 1986). The complexity of factors impacting on a child's acquisition of social problem-solving or any other social/behavioral skill seriously undermines the assumption

that one factor, characteristic, or problem-solving skill improves a child's competency at solving problems or improving his/her adjustment.

Social problem-solving instruction has an eight-year history in Chesterfield County as the result of a cooperative arrangement between the schools and the Community Mental Health Prevention Department. Thus the current method of teaching the classroom training curriculum is as described in Chapter Three. As the result of this intervention, several changes are apparent which may improve the quality of training. Teachers are highly encouraged to teach the problem-solving lessons early in the school year and at a rate of two to three lessons per week (Weissberg et al. 1981). Both teachers and students appear to benefit from an early introduction of these skills rather than delaying their introduction and risking the development of other inappropriate behavior patterns. Due to the need for generalization and maintenance of these skills (Gresham, 1985), the students will require refresher lessons and activities at a rate of at least one per week for the remainder of the school year. In addition, actual observation of the classroom teachers, to ensure accurate teaching of the program, may improve the consistency in the delivery of teaching. As a means to account for the frequency of dialoguing during the school day, this study required teachers to tally occurrences of dialoguing. The

accountability of the tally sheet encouraged teachers to initiate, watch for, and reward student dialoguing as it occurred during non-program lesson time. It is believed that without the tally sheet, the frequency of dialoguing would have been much lower. Additional rewards for students' use of dialoguing such as stickers, problem-solving awards, and other motivators may also improve the frequency of dialoguing and thus the level of cognitive and behavioral skills.

Parent training holds promise for improvement in children's problem-solving skills and behavioral adjustment, however it is not used as widely as is the classroom curriculum. Although the parent training treatment groups did not reveal consistent significant gains in this study, parent's use of dialoguing over time has the potential to impact positively on children's social problem-solving and adjustment. If parents are exposed to the skills even at a minimal level, and are given the opportunity to practice dialoguing, it increases the likelihood that their children will be permitted and perhaps even encouraged to use the problem-solving process at home. Optimally, an expansion and revision of the current curriculum to include activities requested by the parents in this study such as additional role-play and video demonstrations, may improve it's efficacy. Again, to maintain and generalize these skills for use during actual conflict in the home, the parents will require refresher lessons at perhaps monthly intervals.

The most significant outcome of this study is that children's behavioral adjustment gains are related to their cognitive problem-solving skill gains as a result of classroom training which included dialoguing. This supports the mediational link between these two constructs hypothesized by Spivack & Shure (1974 & 1976) for elementary-aged children. This finding suggests that previous failures to obtain the mediational link were due to the age of the children and frequency of dialoguing.

APPENDIX

A

Letters & Forms

COVER LETTER

[School Letterhead]

Dear Parents:

Your child's grade level will soon be involved in a unique research program which will investigate methods to improve and enhance the present "Solve That Problem" ("STP") curriculum, which has been used by our second grade teachers for the past several years. The STP program is designed to teach children how to get along better with others by learning new problem solving skills which are used when solving their own peer-related problems. Four of our second grade teachers will soon begin conducting the series of 25 classroom lessons, each 30 minutes long, as part of the second grade social studies curriculum. This program has been taught in second grade for the past two years. Our other two second grade teachers will teach the regular social studies curriculum during this time and will teach the STP curriculum in January, following the completion of the research program.

This research is being conducted by Mr. James Russo, School Psychologist, as part of his doctoral program at the College of William & Mary. The research project has been approved by both the school system and myself.

In short, this research will explore the improvement of children's problem solving skills and classroom behavior as a result of classroom teaching and parent participation in the "STP" program.

Four second grade classrooms have been randomly assigned to receive the program this fall while the other two classrooms will act as "control" groups and will not receive the program until January.

Your child's class has been assigned to receive the program this Fall or in January.

Attached to this letter are two separate forms. The first, entitled, "Consent Form" explains the research project and if you agree, gives Mr. Russo and his research assistant permission to conduct a brief interview with your child about how he/she solves peer-related problems. Your child's responses will allow him to determine the effectiveness of the "STP" training. The results of these interviews will remain confidential. They will in no way affect your child's performance or placement in school and will not become part of their school records. In addition, your child's name and all identifying information will be kept totally confidential and only group responses will be reported in the final research report. As the consent form explains, a child behavior rating scale will also be

completed for all children and their verbal score on the First Grade Cognitive Abilities Test will be collected from school files. This information will be used to evaluate the effectiveness of the program and will be kept completely confidential.

The second form, entitled, "Confidential Questionnaire" simply provides Mr. Russo with much needed descriptive information about your child and family which will be used in examining the effects of the program. Once again, no identifying information will be released to anyone and this questionnaire will be destroyed upon completion of the research project.

If you are willing to have your child participate in the research aspect of this program, please sign the top half of the consent form and complete the questionnaire at your earliest convenience. If you do not wish your child to participate in the research, please sign the bottom half of the form and return. All children will be taught the "STP" program during the course of the school year.

As you know, we consider your child's social and emotional growth just as important as his or her academic progress. Getting along with others is an important skill, and we hope this program will give your child a solid foundation and lead to good adjustment in future years.

Thank you for your cooperation and support. If you have any concerns or questions, please call either myself or Mr. Russo at school ().

Sincerely,

Principal

James Russo, Researcher
School Psychologist

CONSENT FORM
(experimental group)

The research project at _____ will explore the improvement of children's problem-solving skills and classroom behavior as a result of classroom teaching and parent participation in the "STP" program. The classroom curriculum, which will be presented in four of the six second grade classrooms, will be taught three times a week for nine weeks by the classroom teachers. Your child's class has been selected to receive the classroom training. At a later time, parents will be invited to attend a five-session parent-training program which will cover the major aspects of the classroom curriculum for home use.

To assess the effectiveness of this research project, two tests will be administered to all children (those receiving training as well as those children in the "control" group) before and after the classroom program. One is a brief behavior rating scale which will be completed by your child's teacher. The other involves a brief interview with your child about how he/she solves peer-related problems. This interview will be administered by either myself or a trained research assistant and will take no more than 10 to 20 minutes. As stated in the cover letter, the results of these assessments will in no way affect your child's performance or placement in school and it will not become part of their school records. To investigate the role of intellectual ability on problem-solving skills, your child's group Cognitive Ability Verbal Test score will also be obtained from school records. Your child's name and all identifying information will be kept totally confidential and only group responses will be reported in the final research report.

If you have any concerns or questions about this research project please call either Jim Russo at (H) or (W) _____ or please call collect, Dr. John Lavach, Faculty Advisor, College of William & Mary, (W) 804-253-4434.

I GIVE PERMISSION FOR MY DAUGHTER/SON _____
 TO PARTICIPATE IN THE "STP" RESEARCH PROGRAM AND BE
 INTERVIEWED BY MR. RUSSO OR HIS RESEARCH ASSISTANT AS PART
 OF THIS PROGRAM. I UNDERSTAND THAT THESE INTERVIEWS WILL
 TAKE NO MORE THAN 10 TO 20 MINUTES AND THAT THE RESULTS WILL
 IN NO WAY AFFECT MY CHILD'S SCHOOL PERFORMANCE OR PLACEMENT.
 I ALSO GIVE PERMISSION FOR MY CHILD'S ABILITY SCORE TO BE
 COLLECTED FROM SCHOOL RECORDS. I UNDERSTAND THAT THIS
 INFORMATION WILL BE KEPT IN STRICT CONFIDENCE AND THE
 RESULTS OF THESE INTERVIEWS WILL NOT BECOME PART OF MY
 CHILD'S SCHOOL RECORDS. I UNDERSTAND THAT PARTICIPATION IS
 VOLUNTARY AND THAT I MAY WITHDRAW MY PERMISSION AT ANY TIME
 WITH NO PENALTY TO ME PERSONALLY OR TO MY CHILD.

 PARENT

 DATE

 I DO NOT GIVE PERMISSION FOR MY DAUGHTER/SON _____
 TO BE INTERVIEWED AS PART OF THE 'STP'
 TRAINING PROGRAM. IN ADDITION, HIS/HER ABILITY SCORE FROM
 SCHOOL RECORDS WILL NOT BE COLLECTED FOR USE IN THIS
 RESEARCH PROJECT. I UNDERSTAND HOWEVER, THAT MY CHILD WILL
 RECEIVE THE 'STP' TRAINING AS A MEMBER OF HIS/HER CLASSROOM
 AS PART OF HIS/HER SOCIAL STUDIES CURRICULUM.

 PARENT

 DATE

_____ Please check here if you wish to receive a copy of
 the final research results (available Fall 1990).

CONSENT FORM
(control)

The research project at _____ will explore the improvement of children's problem-solving skills and classroom behavior as a result of classroom teaching and parent participation in the "STP" program. The classroom curriculum, which will be presented in four of the six second grade classrooms, will be taught three times a week for nine weeks by the classroom teachers. Your child's class has been selected to be a "control" group and will not receive the classroom training at this time. Your child will receiving the STP training in January after the completion of this study.

To assess the effectiveness of this research project, two tests will be administered to all children (those receiving training as well as those children in the "control" group) before and after the classroom program. One is a brief behavior rating scale which will be completed by your child's teacher. The other involves a brief interview with your child about how he/she solves peer-related problems. This interview will be administered by either myself or a trained research assistant and will take no more than 10 to 20 minutes. As stated in the cover letter, the results of these assessments will in no way affect your child's performance or placement in school and it will not become part of their school records. To investigate the role of intellectual ability on problem-solving skills, your child's group Cognitive Ability Verbal Test score will also be obtained from school records. Your child's name and all identifying information will be kept totally confidential and only group responses will be reported in the final research report.

If you have any concerns or questions about this research project please call either Jim Russo at (H) or (W) _____ or please call collect, Dr. John Lavach, Faculty Advisor, College of William & Mary, (W) 804-253-4434.

I GIVE PERMISSION FOR MY DAUGHTER/SON _____
 TO PARTICIPATE IN THE "STP" RESEARCH PROGRAM AND BE
 INTERVIEWED BY MR. RUSSO OR HIS RESEARCH ASSISTANT AS PART
 OF THIS PROGRAM. I UNDERSTAND THAT THESE INTERVIEWS WILL
 TAKE NO MORE THAN 10 TO 20 MINUTES AND THAT THE RESULTS WILL
 IN NO WAY AFFECT MY CHILD'S SCHOOL PERFORMANCE OR PLACEMENT.
 I ALSO GIVE PERMISSION FOR MY CHILD'S ABILITY SCORE TO BE
 COLLECTED FROM SCHOOL RECORDS. I UNDERSTAND THAT THIS
 INFORMATION WILL BE KEPT IN STRICT CONFIDENCE AND THE
 RESULTS OF THESE INTERVIEWS WILL NOT BECOME PART OF MY
 CHILD'S SCHOOL RECORDS. I UNDERSTAND THAT PARTICIPATION IS
 VOLUNTARY AND THAT I MAY WITHDRAW MY PERMISSION AT ANY TIME
 WITH NO PENALTY TO ME PERSONALLY OR TO MY CHILD.

 PARENT

 DATE

 I DO NOT GIVE PERMISSION FOR MY DAUGHTER/SON
 _____ TO BE INTERVIEWED AS PART OF THE 'STP'
 TRAINING PROGRAM. I UNDERSTAND HOWEVER, THAT MY CHILD WILL
 RECEIVE THE 'STP' TRAINING IN JANUARY AS A MEMBER OF HIS/HER
 CLASSROOM AS PART OF THE SOCIAL STUDIES CURRICULUM.

 PARENT

 DATE

_____ Please check here if you wish to receive a copy of
 the final research results (available Fall 1990).

ID# _____

CONFIDENTIAL QUESTIONNAIRE

Please fill in the following information as completely as possible:

(NOTE: This highly confidential information will be used only to determine group characteristics of the children. Individual children will not be identified by this information in any written report, nor will they receive differential treatment as a result of this information.)

1. Child's name:

2. Child's birthdate:

3. Child's sex: (circle one)

4. Child's race:
(circle one)

F. Female

1. Black

M. Male

2. White

3. Indian

4. Asian

5. Child lives with: (circle one)

1. Biological mother and father

6. Adoptive
parent(s)

2. Biological mother and stepfather

7. Foster
parent(s)

3. Biological mother only

4. Biological father only

8. Other (specify)

5. Biological father and stepmother

6. Sex and age of other children in the family:

Sex (circle one)

Age (in years)

1. Female/Male

2. Female/Male

3. Female/Male

4. Female/Male

5. Female/Male

7. Marital status of custodial parent: (circle one)

- | | |
|--------------|---------------------------|
| 1. Married | 5. Divorced and remarried |
| 2. Separated | 6. Widowed and remarried |
| 3. Divorced | 7. Never married |
| 4. Widowed | |

8. Mother's education: (circle one)

- | | |
|------------------------|---------------------------------------|
| 1. Less than 7th grade | 5. Some college |
| 2. Junior high | 6. Special training after high school |
| 3. Some high school | 7. College |
| 4. High School | 8. Graduate or professional training |

9. Mother's current occupation:

10. Mother's employment status: (circle one)

1. Employed
2. Not employed

11. Father's education: (circle one)

- | | |
|------------------------|---------------------------------------|
| 1. Less than 7th grade | 5. Some college |
| 2. Junior high | 6. Special training after high school |
| 3. Some high school | 7. College |
| 4. High School | 8. Graduate or professional training |

12. Father's current occupation:

13. Father's employment status: (circle one)

1. Employed
2. Not employed

14. Does your child receive any special education services?

1. No

2. Yes (Please describe:)

PLEASE NOTE: This information will be held in strict confidence and will be seen only by Mr. Russo.

IF YOU HAVE ANY QUESTIONS OR CONCERNS ABOUT THIS QUESTIONNAIRE, PLEASE CALL MR. RUSSO (H) OR (O)

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[Parent Training Letter]

October 3, 1989

Dear Parents,

In an earlier letter, we discussed the "STP" program which is presently being taught in four of our second grade classrooms. As you will recall, this program is designed to teach children new ways to think about and solve problems which happen between people. As part of the research being conducted by Mr. Russo to improve and enhance the present classroom curriculum, we would like to invite you to get more involved with the "STP" program.

Beginning on October 24th, a four session parent education program for parents of second grade students will be offered at Robious. This program is designed to aid parents in the use of the "STP" program at home. Parents will be instructed in how to use the problem-solving techniques so that their children will become proficient at solving their own peer-related problems. The parent groups will be led by Diana Allen and Mira Brown, prevention staff members from Chesterfield Community Mental Health. They both have extensive experience as consultants for the "STP" program and as parent education group leaders. To meet the needs of our parents, two separate groups will be offered. One will be held on four consecutive Tuesday evenings and the second on four consecutive Thursday evenings. The meetings will be held from 7:00 to 8:30 on each of the nights, beginning October 24th. The cost of the course (for materials and handouts) is \$15.00 per person or couple, payable at the first session. Because of special research considerations, \$7.50 will be rebated to parents for attendance at the first two sessions, and \$7.50 for attendance at the last two sessions. Also, a follow-up session will be held in mid-December.

It is necessary that parents who participate in the training attend all four sessions to insure continuity in the program. This is one area in which your full cooperation is needed.

If you are interested in this parent education group and can commit for the full four session program, please complete and return the sheet below to your child's teacher by October 6th. Due to space and time constraints, this initial program will be limited to 15 parents per night.

If you have any questions, please call Mr. Russo at school ().

Sincerely,

Principal

James Russo
Researcher

I am interested in the STP parent education group and I agree to attend all four sessions. I prefer _____ Tuesday evening _____ Thursday evening.

Parent's Name: _____

Child's Teacher: _____

Phone #: _____

APPENDIX

B

Assessment Instruments

PARENT EDUCATION GROUP
FINAL EVALUATION FORM

Meeting Date/Time _____

1) Was the program structured effectively? What suggestions or changes would you make? (More discussions, role plays etc.)

2) What problems have you encountered in using the problem-solving skills program? What suggestions do you have for changes-----that is how have you made it work?

3) What do you think was the most beneficial aspect of the program? The least beneficial?

4) If you had been leading the program, what would you have done differently?

5) Please check the space below to indicate how often, on average you use the problem-solving process (STP) with your child each week:

_____ 0-1 _____ 2-4 _____ 5-7 Other _____

THANK YOU FOR YOUR EVALUATION, IT WILL ASSIST ME IN THE DEVELOPMENT OF FUTURE PROGRAMS.

STP CLASSROOM OBSERVATION

LESSON 10

Date: _____ Teacher: _____

1. Teacher reviews the first three problem-solving steps.

Comments:

2. Teacher presents picture of Sarah and orients class to her feelings, problems, and goal.

Comments:

3. Teacher introduces problem-solving step #4.

Comments:

4. Teacher reviews with the class all the possible solutions generated to solve Sarah's problem.

Comments:

5. Teacher accepts all solutions and does not evaluate their effectiveness.

Comments:

STP CLASSROOM OBSERVATION

LESSON 18

Date: _____ Teacher: _____

1. Teacher asks class the four questions about Charlie.

Comments:

2. Teacher directs the class to evaluate each possible solution to Charlie's problem.

Comments:

3. Teacher introduces problem-solving step 6.

Comments:

4. Teacher has the students try out their best solution to Charlie's problem.

Comments:

STP CLASSROOM OBSERVATION

LESSON 22

Date: _____ Teacher: _____

1. Teacher conducts a through review of the entire problem solving sequence, checking to see if most of the children "know" all of the steps.

Comments:

2. Teacher coordinates the role play of George and Karen playing catch.

Comments:

3. Teacher presents the concept of persistence and explores with the children what happens to them when they at first don't succeed.

Comments:

The Teacher-Child Rating Scale

is available from:

The Primary Mental Health Project, Inc.
Center for Community Study
575 Mt. Hope Avenue
Rochester, New York 14620

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These consist of pages:

115-123

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APPENDIX

C

Parent Education
Program

SOLVE THAT PROBLEM (STP)

PARENT EDUCATION

PROGRAM

LEADER'S MANUAL

WRITTEN & COMPILED BY

JIM RUSSO
1988
Revised July, 1989

SOLVE THAT PROBLEM PARENTING PROGRAM

SESSION 1

OBJECTIVES:

- 1) To introduce parents to the STP Program and to provide them with a rationale for using this approach with their children.
- 2) To help parents explore their children's present problem-solving techniques and build group cohesiveness.
- 3) To present the concept of Reflective Listening and have parents practice this skill.

MATERIALS

- 1) Poster or flip chart listing three to four typical child problems.
- 2) Handout #1-1 Feeling Words
- 3) Handout #1-2 Help !!!
- 4) Handout #1-3 Reflective Listening
- 5) Handout #1-4 Problem Solving steps.
- 6) Index cards with child statements for Reflective Listening.
- 7) Problem Solving Diary Sheets

Introduction:

To begin, let me give you a brief overview of the program, the types of activities we will be engaging in and expectations for you as a participant. As you know the STP Parent Program will last four weeks, this being our first and for the last session we will ask that you bring your second grader. It is most important that you attend all four sessions so not to miss crucial aspects of the program and for the group to be able to provide feedback and reinforcement as you learn these new skills. We be discussing typical child interpersonal problems which occur in your home, you will listen to short talks on the STP skill steps and practice the steps by way of role-plays. This group is a "skills building" group where you will learn a new approach to helping your children solve typical interpersonal problems. You will be asked to complete homework tasks and it is expected that you practice these skills daily. If you think back to a time when you learned

any new skill; golf, tennis, driving a manual shift car or playing bridge, you know that you only became good at it if you practiced. Thus the need to practice daily so that these new skills will become new behaviors.

I. Rationale:

Everyday children encounter a variety of interpersonal problems. Such as being teased, someone taking something from them, leaving their belonging somewhere and then someone picking them up and calling them their own. A simple example would be a child who wants a particular toy, an another child wants the same one, how does a child solve that interpersonal problem. Typically, kids have gotten into the habit of running to the nearest adult to seek help, or whoever pulls the hardest, hits or yells the loudest gets the toy and the problem is solved. What we want teach kids is that there is more than one way to solve a problem and to stop and think before they act. If we can do this then we will reduce the impulsive behavior and inappropriate means to solve problems.

How well a child handles those very real, very human problems has important consequences about how the child feels about school as well as their overall emotional development. Unfortunately many children are not effective problem solvers. Some behave impulsively and just do the first thing that comes to mind. They are unaware of the feelings of other people, they do not know how to set goals or think of alternative ways of solving the problem. They often do not consider the consequences of their behavior, before they act.

II. Small Group Discussion

Pair up parents and have them discuss one typical everyday interpersonal problem which has recently occurred with their child. Ask the parents to share the problems discussed, how often these problems occur and how they handled it. These problems should be recorded by the leader and be used as material for role plays throughout the program.

III. Goal of Program

The goal of the STP program is to teach children an approach to handle these interpersonal difficulties without having to rely on adults for help. In the program we teach children not what to think but how to think. Specifically, how to identify the problem, identify feelings, think of alternative solutions, and to anticipate consequences of their solutions. By going through that process they will better able to resolve the conflicts that they experience with their peers.

The goal I have for you is to reinforce those social problem solving skills which are being taught in the

classroom. The children who receive the same type of social problem solving training both at school and at home will hopefully internalize that process quicker and easier and will be able to solve interpersonal problems more competently than those without similar training.

Turning now to the curriculum being used in the classroom. It is divided into 5 different units. 1. Recognize feelings in themselves and others. (Who has feelings, what are feelings.) 2. Problem identification (How do you know when a problem is present ? 3. Generation of alternative solutions. (Coming up with a number of solutions, not just one.) Part of that unit asks them to judge the quality of those solutions. 4. Consider the consequences of each of the possible solutions prior to trying one out. This is very much like a brainstorming session where you list all the possible solutions before you decide on one. The children are taught to ask, "What will happen if I.....(do this). □ Give parents a concrete example●

The children are taught these steps, are asked to try out make believe solutions in role play situations and are also instructed as to what to do if their solution did not work. Hopefully they will go back and try again. We also instruct kids as to when would be the best time to try their solution. For example, if they choose to ask another child for their pencil in the middle of a math lesson it may cause another problem with the teacher.

That is an overview of the p-s curriculum which is followed in the classroom and which provides a framework for our sessions. Before I go further are there any questions about the rationale and overview of the p-s curriculum.

Introduction to Reflective Listening

Before I present in detail the problem-solving steps, I would like to introduce what I believe is a prerequisite skill for parents called, "Reflective Listening". Some of you may be familiar with this skill. Reflective Listening is a form of communication which I feel is crucial to be able to open up communication with your child so that they will be willing to problem-solve with you. Reflective listening essentially communicates to the child that you understand the feelings behind the words that they are expressing. You go beyond the words which the child is saying to the feeling level and communicate understanding without being judgmental. We know that when a child or adult is upset they tend to lose perspective. (That is, they often do not think rationally.) By listening reflectively, you help the child think through the upsetting problem. We can reflect and clarify the child's feeling to help them get an understanding of the problem so that they can solve their own problem.

Some guidelines: with reflective listening you want to temporarily ignore the facts and go to the feelings. The

child's perception of the facts may be totally wrong, but ignore it and go to the feelings.

Example : Your child runs into the house, slams the door and says: " I'm not ever going back to that stupid school again!"

What is the feeling behind this? Anger, right, so a parent's reflective response might be "You are feeling very angry and it looks like something happened at school today." It goes beyond the words and acknowledges the feeling that the child is experiencing. Thus a reflective response grasps what the child feels and communicates it so that the child understands that you are hearing him, not only words but feelings. It provides the child with a mirror so the can see themselves more clearly. Often this allows a child to begin on their own to explain the facts and actually solve the problem.

Here is another example:

Child says: I'm really disappointed with Billy and the other kids for not coming over to play with me. There is nothing to do!

Reflective Response: "There's no one to play with and you are feeling left out."

Thus reflective listening is producing open responses which reflects feelings and meanings. We must be non-judgmental and try to experience true empathy with our child and not just mimic back words.

IV. Show video of parent using active listening.

V. Reflective Listening Practice

1. Give parents handout on Feeling words (#1-1) and Help What do I say now?" (#1-2).
2. Tell the group that they are going to practice giving reflective responses. Give each parent an index card with one or two brief child-statements. These are to be read with feeling to the parent on their left. That parent is to listen reflectively and give a reflective response. Then they proceed around the circle until all have had a turn. Leader should model this first. Both the leader and other parents should help those who "get stuck". The leader should provide frequent reinforcement during this activity.

VI. Summary

Most any new behavior we learn is uncomfortable. This is for any behavior even a motor skill such as learning to drive a manual shift car. □ Use a personal example, such as

changing that will not be easy. We all fall back to more familiar, comfortable behaviors under stress. And what is more stress producing than parenting. At first it will be awkward and unnatural but the more you practice it and use it the more natural it will become. Give out Handout # 1-3.

Discourage the use of the word UPSET

When parents first begin using reflective listening, they often get in the habit of using the word "UPSET" to describe the feelings expressed by their child. It is a handy word but also it can become meaningless, if used for a wide-variety of emotions. It covers the gambit from sad because your Grandmother died to sad because someone pushed you down.

VII. Introduce Problem-solving Steps

Distribute the handout on the problem-solving steps (#1-4). Quickly review the handout and tell parents that they will be discussed next week.

VIII. Homework:

You will be assigned homework each week, which will reinforce the concepts presented at our sessions. As you all know, if you practice the skill you will become better at it. If you don't, you don't. This week please practice using the reflective responses. As you practice you will feel awkward, and may need to stop and think what words to say. That is to be expected. Please use these (Pass out two copies of the Problem Diary) Diary sheets to record what happened when you used the reflective response. Do this for at least two situations this week, but practice at least four times, more would be even better.

SITUATIONS FOR INDEX CARDS

- * (child crying) Mommy! Mommy! I was playing with Judy and she broke my doll! The arm came right off!
- * (say in a sad, neglected manner) I was playing with John and then Jim came over, and now they won't let me play with them.
- * I quit! I never seem to do anything right! I can't even play kickball!
- * I'm never going to play with her again!
- * I don't want to go to school today. Billy is mean!
- * You're the meanest mother in the whole world!
- * (child crying) Jimmy took my truck away from me.
- * Tommy won't play with me today. He won't ever do what I want to do.
- * I hate this neighborhood. I wish we would move.
- * I hate Mrs. Smith. She's the worst teacher in the world.
- * I never get a chance to get the ball when the bigger kids start to play.
- * I hate Jimmy. He was playing with my new airplane and he pushed me down!

Problem Diary
Session 1

Name: _____

Date: _____

1. Briefly describe a situation that you used reflective listening this week.

What happened: _____

Who with:

2. What did you say and do?

3. What happened in the end?

4. What did you like about what you said & did?

5. What is something else you could have done to handle the situation?

HANDOUT # 1-1

FEELING WORD LIST

Words for Reflecting "not so good" Feelings

accused	hurt
angry	inadequate
anxious	incapable
bored	left out
defeated	miserable
difficult	put down
disappointed	rejected
discouraged	sad
disrespect	stupid
doubt	unfair
embarrassed	unhappy
like giving up	unloved
frightened	want to get even
guilty	worried
hate	worthless
hopeless	down in the dumps
scared	lonely

Words for Reflecting "happy" Feelings

accepted	good
appreciated	grateful
better	great
capable	happy
comfortable	love
confident	pleased
enjoy	relieved
excited	respected
glad	satisfied

SOLVE THAT PROBLEM PARENTING PROGRAM

SESSION 2

OBJECTIVES:

- 1) To review the concept of Reflective Listening and have parents demonstrate this skill.
- 2) To introduce parents to the Problem-Solving Steps.
- 3) To integrate reflective listening and problem-solving.

MATERIALS:

- 1) List of possible role play scenarios.
- 2) Video clip from Active Parenting tape.
- 3) Handout #2-1, STP Problem Identification
- 4) Handout #2-2, STP Generating Many Solutions
- 5) Handout #2-3, STP Consequences
- 6) Handout #2-4, STP Sample Dialogue
- 7) Handout #2-5, What Might Happen Next Game
- 8) Problem Solving Diary

I. Welcome back & Review of homework.

Open up discussion to parents to relate their experiences with reflective listening and review their diary sheets. These will be collected at the end of tonight's session. The leader should encourage the use of these skills and give parents support.

Potential problems:

1. One-word answers.
2. Child does not respond to parents reflective response.
3. Parent is resistant to using the reflective response.

They are expecting too much from their child.

4. Parents had trouble coming up with words for the feelings associated with emotion.

II. Role Play (See attached list of scenarios if needed)

Have parents give examples of problems which occurred during week (from diary). A) Leader role plays first using reflective listening. B) Next the leader asks for another

problem situation to be role played by two volunteers. Encourage the parents not to stop with just only response. Ask the rest of the group watch and help role players with responses if they get stuck.

Example:

Child: No one likes me, they won't ever play with me.

Adult: You seem to be feeling very hurt.

Child: I am, they all run away when I say I want to play with them. I wish I had some friends.

Adult: You seem to be feeling lonely.

Child: I am cuz they won't play with me. Nobody likes me, not even my teacher.

Adult: You feel as if your teacher doesn't like you either.

Child: Yes, she yelled at me for not having my homework paper. I put it in my backpack and someone took it!

Comment: The nice thing about reflective listening is that if you at first do not hit on the 'right' feeling, you can reflect again, and again until you get it right.

Caution: Do not use reflective listening all the time or for all problems. Must select appropriate times.

What do you do next? After you validate the child's feelings, then you must do something. This is when you go into problem-solving. Caution: You may not always need to use problem-solving. Sometimes problems can be solved simply by using the reflective response. Acknowledging the child's feelings may be enough to correct the problem.

III. Introduce all problem-solving steps. (Refer handout from last week)

1. Identify problem. (HANDOUT #2-1)
2. Decide on a goal (how would you like things to turn out?)
3. Stop and think (children often have the most difficulty with.) This is often the most difficult because kids are by nature impulsive. They do not often stop and think. We teach them to stop and think. (May need to use a cognitive technique such as counting to 3-5-10).
4. Think of Solutions (HANDOUT #2-2)
 - A. Review handout from last week.
 - B. Theory mini-lecture:

Must have the child generate many solutions to any interpersonal problem, rather than to stop after thinking of just one or two "standard approaches". Helping the child learn to find alternatives will maximize their problem-solving effectiveness. Once your child is able to identify exactly what the problem is (step one), it's important that he be able to find a way of solving it. If your child can think of several different ways of solving the problem, the better chances are that one, or a combination of them, can be used to solve the problem. At

first accept all solutions, be very open even if the solutions become ridiculous at times. If you show any disapproval then your child will not come up with as many. On last week's handout under step four, I have listed types of questions you could use when presenting this step.

5. Consider consequences (HANDOUT #2-3)

A. Consequences (This is a very difficult skill for kids to use independently. They must be taught to think ahead.)

1. Anticipation- think ahead to what might happen next if a solution is tried. (ie. What might happen right away? What might happen later?) Looking at both the short term and long term outcomes of their actions.

2. Evaluation - involves consideration of both personal (does the solution lead mostly to things I want to happen?) and social (How might other people feel?) outcomes of a solution.

B. The alternative solutions - consequences pairing is the most important skill for the child to learn. How To: If they child generates several alternatives ask them which one they should consider first. Then have them consider the consequences of that alternative before looking at the next alternative and so on.

6. Try it.

Have the leader and parent or two parents use Handout 2-4 for the role play.

IV. Intergration of Reflective listening & Initial problem-solving steps.

A. Show clip from Active Parenting videotape.

B. ACTIVITY: □LEADER MODELS FIRST• Pair up parents to do role plays (not in front of group). The parents should use reflective listening and the actual problem-solving steps. The leader should "float" from pair to pair and offer help as needed. One parent will play the part of seven-year old child and the other plays the parent. First the leader models and the parents watch. Leader use the STP Sample Dialogue. Second, parents try a "live" role play using this scene:

Your child's best friend is moving away, out of your neighborhood. Your child comes home from playing and says, " Jamie (Janie) is moving away and she is my best friend!"

D. Debrief role plays.

Problems parents may find: Child not receptive to solutions from parent. Deciding on a goal was difficult. The leader should caution parents not to come up with solutions for the child, let your child do it. Also parents

should not jump right into problem-solving and skip the reflective listening.

V. HOMEWORK

1. Continue reflective listening, and tie it into the problem-solving steps. Practice this at least three times during the coming week and write down at least two situations and the outcome. We will share these next week.

2. Talk to you child about the problem-solving process and ask what they have learned in school.

3. Complete Handout #2-5 with their child.

Problem Diary
Session 2

Name: _____

Date: _____

1. Briefly describe a situation that you used reflective listening/problem-solving this week.

What happened: _____

Who with:

2. What did you say and do?

3. What happened in the end?

4. Which problem-solving steps used?

5. What did you like about what you said & did?

6. What is something else you could have done to handle the situation?

SOLVE THAT PROBLEM PARENTING PROGRAM

SESSION 3

OBJECTIVES:

- 1) To review parents attempts to listen reflectively and use the problem solving steps with their children.
- 2) To provide parents with practice in the use of the problem solving steps.
- 3) To discuss ways to use the problem solving techniques at home.

MATERIALS

- 1) Handout #3-1, Integration of Problem-Solving Behavior
- 2) Handout #3-2, Model, Model, Model
- 3) Sarah's Problem Poster (lesson 10, p.47b)
- 4) Diary Sheet
- 5) STP Project Outline

I. WELCOME BACK

II. Review of Homework

A. Ask about experiences with reflective listening and problem solving. Have parents share successes & failures from their Diaries and collect them at the end of the session. Reinforce and support parents for their using this difficult skill. Be aware of resistance from children when parent uses these skills initially. Watch for complaints that the problem-solving steps take too long.

B. Role play at least one or two situations from the homework.

III. Integration of all Problem-Solving Steps

A. Review the problem-solving steps with parents. Ask them as a group to identify each of the problem-solving steps. Open up for discussion and answer any questions or concerns. If needed cover any material from session 2 which was not covered or hurried through.

B. Handout #3-1. Discuss this handout and stress the need for frequent practice. Also highlight point #5,

parents as models. This concept will be further addressed in handout #3-2.

IV. Role-play for additional practice

A. Leader models role-play with group member. Use "Sarah's problem" poster (Lesson #10, p.47b) as a stimulus or other parent generated appropriated problem. Leader plays role of Sarah's "teacher", a parent plays the role of the child. Use the reflective listening, and the problem solving steps of state the problem, what is my goal, stop and think, then generate alternatives and consequences.

Debrief role play. Remind parents that they can make suggestions to the child on how to solve the problem, but try to wait till the child has generated some on their own.

V. Modeling

Review handout #3-2. Stress the importance parental modeling on the development of problem-solving skills with their children. It is very, very powerful. This handout gives parents ideas on how to model of each problem-solving step. Discuss the need to "talk" or think out loud as they solve actual problems.

VI. Role Play

A. Two siblings, Mary(8) and Shawn(5). Mary is coloring at the kitchen table while you are talking on the phone. Her brother enters and takes her red crayon (the one she is using). Mary is mad! and calls on you to help.
□Leader plays the role of the mother and take the children through the problem-solving process.●

Debrief role play.

VII. Pass out the STP Project Outline sheet. Discuss with parents the purpose of this activity; to give them an opportunity to demonstrate their STP skills. Allow them 10 to 15 minutes to begin completing this sheet and answer any questions which they may have. Tell the parents that for next week they are to have prepared two role plays. One will involve a work-related problem and the other an interpersonal problem with their second grade child. They will demonstrate their skills next week. Remind them to bring their children.

VIII. Summary & Homework

1) Use the problem-solving process with your child. Reinforce the need to do some of this homework each day rather than doing it all one night to get it over with. Stress daily practice!!!

2) Tell the parents to model the problem-solving process two times this week and record them on the Diary.

3) Remind them to complete the STP Project Outline sheet and come prepared to role play with their children.

Problem Diary
Session 3

Name: _____

Date: _____

1. Briefly describe a situation that you used reflective listening/problem-solving this week.

What happened: _____

Who with:

2. What did you say and do?

3. What happened in the end?

4. Which problem-solving steps used?

5. What did you like about what you said & did?

6. What is something else you could have done to handle the situation?

Problem Type _____
STP Project Outline

1. What is the Problem?

2. My Goal is:

3. Stop & Think

4. I thought if these Solutions & their Consequences:

SOLUTIONS	WHAT MIGHT HAPPEN NEXT?

5. I am going to do this to solve the problem:

SOLVE THAT PROBLEM PARENTING PROGRAM

SESSION 4

OBJECTIVES:

- 1) To review the problem-solving process and to evaluate parents skill at using the process with their children.
- 2) To trouble shoot parents problems and concerns.
- 3) To present two STP enrichment activities.
- 4) To award Problem-Solving certificates of completion.
- 5) To allow parents to formally evaluate the program.

MATERIALS

- 1) Handout #4-1, STP Techniques for Home Use
- 2) Handout #4-2, Plan and Play & Roadblock
- 3) Handout #4-3, Short STP Dialogue
- 4) Handout #4-4, "What Might Happen Next?"
- 5) Handout #4-5, "What Else Can I Do?"
- 6) Problem-Solving Certificates
- 7) Final Evaluation Form

I. Welcome

Welcome Back!! This as you know is our last STP Parent Meeting. Before we take a look at the homework, I would like to give you the opportunity to either ask any questions or voice any concerns you may have about STP. Is there anything that you would like discussed tonight that has not been covered?

II. Homework

A) For the past week you had three related activities for homework: 1) use the problem-solving process with your child, 2) model the problem-solving process, and 3) complete the STP Project Outline. Who would like to share their experience with using the process and modeling? LEADER:

Encourage discussion among the parents and look for opportunity to praise them for successfully using the problem-solving process.

III. STP Demonstrations

Ask parents for volunteers to role play their prepared work-related situations. Next have the parents and children role play child/parent situations. If time permits, ask the children if they can come up with a school-related situation to role play.

□Give the kids refreshments while parents continue with rest of session●

IV. Handouts

A) Review handout #4-3 with parents. This handout is an example of a short or brief STP dialogue between a father and daughter. Have parents read the handout and explain how they may use this shortened version under time pressure. Caution them not to use this exclusively.

V. STP Enrichment Activities

Plan and Play and Roadblock are enrichment/integrative activities. They both relate to Step 6, Try It. Plan and Play is essentially a plan ahead game which teaches children to plan before they act. Roadblock demonstrates to children that sometimes their best solutions may not work. This activity teaches children to be flexible when they try a solution but run into a roadblock. Parents should be asked how they might use these activities at home.

VI. STP at Home

Review Handout #4-1. Discuss handout and have the parents relate how they have used STP at home. Point #2 is extremely important, parents must reinforce their children for using the STP process.

VII. Additional Practice

Handouts #4-4 & #4-5 are provided to parents to use as additional practice with their children. Since this is the last session, they will not be formally assigned as homework.

VIII. Summary and Final Evaluation

Leader: Briefly summarize the STP Problem-Solving Process , the Problem-Solving Steps and the purpose of this parent program. Ask the parents for verbal feedback about the course and then ask each one to formally evaluate the course in writing.

Finally, remind parents that a follow-up parent meeting will be held in December. Letters announcing the time & date will be sent home in early December.

Reference Notes

1. Weissberg, R.P. Personal Communication, April, 1989.
2. Lotyczewski, S. Personal Communication, April, 1989.

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