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## Coaching Children in Social Skills For Gains in Self-Concept

C. Wayne Yocky

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COACHING CHILDREN IN SOCIAL SKILLS  
FOR GAINS IN SELF-CONCEPT

By

C. WAYNE YOCKY

A DISSERTATION

Presented to the Faculty of  
Western Conservative Baptist Seminary  
in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy

Under the supervision of Dr. Paul E. Sundstrom

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This dissertation, written by C. Wayne Yocky under the direction of the Chairman of the candidate's Guidance Committee and approved by all members of the Committee, has been presented to and accepted by the Faculty of the Western Conservative Baptist Seminary in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Psychology).

Date August 23, 1983

James E. Sweeney

Academic Dean

Guidance Committee

Paul E. Sundstrom Ed.D.

Chairman

Rodger K. Bofford Ph.D.

Paul F. Albrecht

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## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS . . . . .	ii
LIST OF TABLES . . . . .	vi
LIST OF FIGURES . . . . .	vii
ABSTRACT . . . . .	viii
Chapter	
I. INTRODUCTION . . . . .	1
Self-Concept . . . . .	2
Social Skills . . . . .	4
Self-Concept and Social Skills . . . . .	12
Scope of This Study . . . . .	16
II. METHOD . . . . .	19
Subjects . . . . .	19
Setting . . . . .	23
Apparatus . . . . .	25
Procedure . . . . .	33
Extraneous Variables . . . . .	49
Data Analysis . . . . .	50
III. RESULTS . . . . .	55
The Relationship Between Post-Test PH Scores and Social Skills Training . . . . .	57

The Relationship Between Post-Test Social Skills and Social Skills Training . . . . .	59
The Relationship Between Post-Test PH Scores and Combined Post-Test Social Skills, Social Skills Training, and Academic Ability . . . . .	61
IV. DISCUSSION . . . . .	65
Discussion of the Hypotheses . . . . .	65
Recommendations for Further Research . . . . .	73
Conclusions . . . . .	75
REFERENCE NOTE . . . . .	77
REFERENCES . . . . .	78
APPENDIX 1 Parent Letter . . . . .	88
APPENDIX 2 Observation Coding Form . . . . .	90

## LIST OF TABLES

Table	Page
1. Games Used in Play Sessions . . . . .	34
2. Mean Scores and Standard Deviations of Variable Measures for Experimental and Control Conditions . . . . .	56
3. Correlation Coefficients Between Research Variables . . . . .	58
4. Multiple Regression Statistics for Hypothesis One . . . . .	60
5. Multiple Regression Statistics for Hypothesis Two . . . . .	62
6. Multiple Regression Statistics for Hypothesis Three . . . . .	64



## LIST OF FIGURES

	Page
1. Model for Experimental Procedure . . . . .	20
2. Model of Procedure for Selection of Children for Participation, and Assignment to Condition and Group . . . . .	24

## ABSTRACT

The purpose of this study was to investigate the effect of a four-week social skills training program upon the self-concepts of low self-concept children. The 22 third, fourth, fifth, and sixth grade children who participated in the study were identified by low scores on the Piers-Harris Children's Self Concept Scale (PH). The coaching condition included: (a) small group instruction from an adult in social skills; (b) behavior rehearsal during game play with a peer; and (c) group post-play review with the coach. The control condition included: (a) small group interaction with the same adult on topics unrelated to social skills; (b) game play with a peer; and (c) group post-play interaction with the adult on topics unrelated to social skills. Observations of the children's social skills were made before and after treatment.

The results indicated no relationship between the experimental condition's post-test self-concept scores and participation in social skills training. Also, no relationship was found between post-test social skills scores and social skills training, nor between post-test self-concept scores and the combined effects of post-test social skills scores, academic abilities scores, and social skills training. Methodological shortcomings were cited to account for the experimental condition's lack of gains in social skills and thus their lack of gains in self-concept. The findings confirmed the test-retest reliability of the PH.

## CHAPTER ONE

### INTRODUCTION

An individual's self-concept has long been theorized to be a crucial factor in determining one's attitudes and behaviors. How an individual views self is central to many theories of development and psychopathology whether one refers to self-concept (Rogers, 1951), self-system (Sullivan, 1953), identity (Erickson, 1968), self-representation (Hartman, 1958), or self-esteem (Freud, 1957). In particular, theorists have maintained that self-concept is integrally related to an individual's interactions with others, and affects how one behaves socially (Fromm, 1939; Rogers, 1951; Sullivan, 1953). Such theories form the basis for research studies which have linked negative self-concepts with delinquent or socially unacceptable behavior (e.g., Epstein, 1962; Fitts, 1965; Fitzgerald, 1965; Reckless, Dinitz, & Murray, 1956). The notion is that persons with low opinions of themselves feel socially inadequate, unworthy, and insecure, and so to compensate for their frustration and loneliness they resort to socially unacceptable behavior (Fryrear, Nuell, & White, 1977). Researchers have, therefore, designed studies which have demonstrated that involvements in positive social interactions can affect self-concept positively (Fryrear et al., 1977), and that training in specific social skills can improve self-concept (Eitzen, 1975; Quesnell, 1979; Silvern, Waterman, Sobesky, & Ryan, 1979; Spence & Spence, 1980).

The purpose of the present research is to continue the investigation into the relationship between self-concept and social skills by examining the effect of a social skills training program composed of coaching and behavior rehearsal upon the self-concepts of low self-concept children.

### Self-Concept

#### Definition of Self-Concept

As a general definition of self-concept, Perkins (1958) offered the following: "Those perceptions, beliefs, feelings, attitudes, and values which the individual views as describing himself" (p. 221). Similarly, Spence and Spence (1980) noted that generally, "Self-esteem has been taken to refer to a person's own evaluation of his or her own value, worthiness, adequacy and competence" (p. 265). Coopersmith (1967) defined self-esteem as

the evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself capable, significant, successful, and worthy (pp. 4-5).

For the purposes of this study, the terms self-concept, self-esteem and self-acceptance will be used synonymously to refer to an individual's evaluation of self adequacy, worthiness, and competence. In particular, concern is with those aspects of self-concept which relate to an individual's social interactions and social adjustment.

### Significance of Self-Concept

There have been numerous attempts to explain the etiology of self-concept. Rogers (1951) theorized that the self is formed "as a result of interaction with the environment, and particularly as a result of evaluational interaction with others" (p. 498). Others have also linked the development of self-concept to social interactions, dating back to Cooley (1902) who suggested that individuals perceive themselves the way they think others see them (the "looking glass self") and react accordingly. Meade (1934) developed upon Cooley's ideas by hypothesizing that one's self-concept arises through social interactions as an outgrowth of concern about how others react to him/her. Sullivan (1953) believes that an individual cannot exist outside of some interpersonal relationship. The self-concept is the product of the individual's social interactions. These theories lead to the conclusion that the development of positive self-concepts are, at least in part, the result of positive, socially rewarding relationships and that negative self-concepts are the result of negative, socially non-rewarding relationships (Fryrear et al., 1977).

Coopersmith (1967) conducted a monumental study in which he examined the antecedents of self-esteem. The study revealed that self-esteem is significantly associated with personal satisfaction and effective functioning. Persons low in self-esteem tend to be more destructive, more anxious, and more prone to exhibit psychosomatic symptoms. They generally lack initiative and assertiveness, and they are generally less happy and less effective in social adjustments. Of particular interest to the present study is the finding that low

self-esteem children are much more likely to report poor or moderate relations with peers than children who are medium or high in self-esteem.

The acquisition of a positive self-concept then is considered crucial in the developmental process and vital to adequate socialization.

### Social Skills

#### Significance of Social Skills

In addition to studying the role of self-concept in the human experience, several researchers have studied the role of social skills in human development. Impetus to this line of research was given by the studies of Zigler and his associates (e.g., Zigler & Levine, 1973; Zigler & Phillips, 1961) which demonstrated a relationship between social competence and psychiatric adjustment. The importance of focusing specifically on the social skills of children has been indicated by several correlational studies which have shown that socially unskilled children evidence a variety of adjustment problems in later life. Socially unskilled children have been shown to have a high incidence of school maladjustment (Gronlund & Anderson, 1963), dropping out of school (Ullman, 1957), delinquency (Roff, Seals, & Golden, 1972), bad conduct discharges from military service (Roff, 1961), and adult mental health difficulties (Cowen, Pederson, Babigian, Izzo, & Trost, 1973; Kohn & Clauson, 1955; Roff, 1970).

Research by Gottman, Gonso, and Rasmussen (1975) examined the relationship between social skills, social interaction, and popularity.

Working with 198 third and fourth grade children, the researchers compared number of friends, socioeconomic status and grade level with two sets of dependent measures: (1) social skills, including measures of the ability to label emotions in facial expressions, giving help, role-taking ability, and knowledge of friendship making; and (2) social interaction, using naturalistic observations in the classroom. The results supported the conclusion that popular children are more skillful socially than unpopular children and interact differently with their peers. Children with more friends distributed and received more positive reinforcement in the classroom, they were more knowledgeable about how to make friends, and they were more capable of communicating to a listener. The authors urged that further research be designed to train children with few friends on those variables which were shown to be related to friendship.

O'Connor (1969) observed that  
a child who is grossly deficient in social skills will be  
seriously handicapped in acquiring many of the complex behavioral  
repertoires necessary for effective social functioning....  
children who are unable to relate skillfully to others are likely  
to experience rejection, harassment, and generally hostile  
treatment from peers (p. 15).

Similarly, Rhodes, Redd and Berggren (1979) noted that "children lacking social skills are especially vulnerable to the acquisition of inappropriate interpersonal behavior" (p. 18). Recognizing these critical ramifications for people who fail to develop adequate social skills, researchers have attempted to develop intervention strategies

that will facilitate the development of appropriate social skills.

### Social Skills Training

In reviewing studies which involve social skills training with children, Osberg (1982) observed that the goal of social skills training programs is typically to help individuals develop more adaptive interaction patterns with others. They are used more to establish adaptive behavior patterns rather than to eliminate maladaptive behavior. When applied to children, they are used as a preventive measure to reduce the probability of developing later problems in interpersonal relationships. Investigations of the value of social skills training have been performed with a variety of populations: isolated children (Gottman, Gonso, & Schuler, 1976; La Greca & Santogrossi, 1980), unassertive children (Bornstein, Bellack, & Hersen, 1977), hospitalized aggressive children (Bornstein, Bellack, & Hersen, 1980), court-adjudicated delinquents (Spence & Spence, 1980), retarded children (Matson, Kazdin, & Esveltd-Dawson, 1980), and normal children (Jewett & Clarke, 1979; Sugai, 1978). A variety of procedures have been used in social skills training, including instruction, behavior rehearsal, role-playing, practice, feedback, modeling, and coaching. Osberg (1982) concludes that "the current review of studies on social skills training with children suggests much reason for optimism concerning the utility of such programs" (p. 70).

One method utilized in an effort to change social behavior is the behavioral technique of shaping. Shaping uses positive



reinforcement to alter behavior gradually. However, a study by O'Connor (1972) indicated that the effects of a shaping procedure alone are not long-lasting. Eight isolated children were reinforced for making social contact with the result that the amount of time they spent in social interaction dramatically increased. When reinforcement was terminated, however, their behavior reverted to the baseline level. It is possible that the children were socially unskilled and thus unable to develop friendships once they made contact with other children.

Another method which has been employed in an attempt to train children in social skills is symbolic modeling. O'Connor (1969) identified socially withdrawn children and assigned them to one of two conditions. One group saw a social interaction modeling film which depicted children in increasingly more active social interactions with positive consequences in each scene. The film was narrated to emphasize the appropriate behavior of the model. The other group saw a film which contained no social interaction. After the films, the children returned to the classroom where observations were made immediately. The children who saw the symbolic modeling film greatly increased in social interaction, whereas the children who saw the other film made no change at all. A subsequent study (O'Connor, 1972) utilizing the same procedure plus follow up observations demonstrated that the children who saw the modeling film continued to interact with their peers weeks after the film.

In evaluating O'Connor's studies (1969, 1972), Asher, Oden, and Gottman (1976) questioned why isolated children learn from film models

but not from real-life peer models in their classes. They suggested that perhaps an important factor in the children's learning from the film model was the film narration which drew the children's attention to appropriate social details that they otherwise would miss.

One specific technique that has been regarded as quite promising in social skills training is behavior rehearsal. Lazarus (1966) defines behavior rehearsal as

a specific procedure which aims to replace deficient or inadequate social or interpersonal responses by efficient and effective behavior patterns. The patient achieves this by practicing the desired forms of behavior under the direction and supervision of the therapist (p. 209).

Working with patients who had specific social and/or interpersonal difficulties and no previous treatment, Lazarus studied the effectiveness of behavior rehearsal by comparing it to two other treatment modes: reflection-interpretation and direct advice. Behavior rehearsal was found to have a significant effect in reducing social and interpersonal problems.

Gittelman (1965) also reported the successful use of behavior rehearsal in both individual and group counseling with children. The behavior rehearsal consisted of a combination of role-playing and psychodrama in a desensitization format. It was found that the technique was effective in reducing aggressive and deviant behaviors in the children.

Rhodes et al. (1979) developed a social skills training program

consisting of instruction, feedback, behavior rehearsal, and modeling by an adult role model to train a severely withdrawn adolescent to be more assertive. The training program significantly increased target assertiveness behaviors as well as ratings of overall assertiveness. An important result of the study was that the effects of the training program using an adult therapist generalized to interpersonal situations involving peers.

Other studies have attempted to ascertain the effectiveness of behavior rehearsal when combined with other treatment components. McFall and Lillesand (1971) combined behavior rehearsal with symbolic modeling and therapist coaching to train subjects in assertiveness skills. The procedure involved seven steps: 1) the narrator described a situation; 2) the subject responded covertly or overtly; 3) the subject heard the responses of one male and one female assertive model; 4) the narrator coached on what makes a good assertive response in the situation; 5) the subject heard his response replayed or reflected on it; 6) the situation was repeated; and 7) the subject again responded covertly or overtly. The results attested to the therapeutic efficacy of behavior rehearsal as a general treatment approach.

McFall and Twentyman (1973) continued the research of McFall and Lillesand (1971) in a series of four experiments with college students which was designed to isolate the relative contributions of rehearsal, modeling and coaching to assertiveness training. The results showed that rehearsal and coaching accounted for virtually all of the

treatment variance, while modeling failed to add appreciably to the treatment effects. Rehearsal, which appears to be the mechanism by which newly acquired responses are strengthened, refined and integrated into the repertoire, was shown to be an effective procedure whether overt rehearsal, covert rehearsal or a combination of the two. It is also interesting to note that evidence was given that coaching is not merely a special form of modeling, but a distinguishable treatment component.

Based on McFall and Twentyman's (1973) demonstration that coaching plus rehearsal is an effective procedure for training assertiveness, Oden and Asher (1977) designed research to assess whether using coaching plus rehearsal as a method of training isolated children in social skills is effective in promoting gains in peer acceptance. They selected low-accepted children on the basis of sociometric measures.

The Oden and Asher (1977) coaching procedure involved three phases: 1) children were verbally instructed in social skills; 2) they were then provided with an opportunity to practice the social skills by playing with a peer; and 3) they had a review session with the coach immediately after play. During the instruction phase, the social skills were presented as useful for making a game fun or enjoyable to play with another person: "a) participating in a game or activity, b) cooperating (e.g., taking turns and sharing materials), c) communicating (e.g., talking and listening), and d) validating or supporting (e.g., giving attention or help)" (p. 497). The skills were chosen because of their apparent relationship to children's peer

acceptance (Asher et al., 1976; Hartup, 1970).

Oden and Asher (1977) randomly assigned children with the lowest ratings on sociometric measures to one of three experimental conditions: coaching, involving instruction, play with a peer partner, and review; peer-pairing, involving play with the same peer partners but no coaching or review; and control, involving side-by-side play with the same peer partners with more solitary games and no interaction. Behavioral observations were also made during play sessions of the coaching and peer-pairing groups. The observation categories were: "participating in the activity, being uncooperative or rejecting to the other child, being task oriented or ignoring the other child, and being peer oriented or supportive of the other child" (p. 497).

Oden and Asher's (1977) post-test sociometric measures indicated that the coaching children made highly significant ( $p < .01$ ) increases in peer acceptance as the result of the intervention, whereas the peer-pairing children decreased and the control children remained the same. The behavior-observation data found no significant differences between the coaching and the peer-pairing children on any of the behavioral measures. However, both the coaching and the peer-pairing children made significant ( $p < .01$ ) increases in the participation category across sessions. A one-year follow-up revealed that the coaching children had continued to improve, the peer-pairing children had also made some gain, and the control children had remained the same. The overall results of the research indicate that the coaching procedure was effective in producing increases in the peer

acceptance of isolated children.

In reviewing Oden and Asher's (1977) study, however, Ladd (1981) raised the question of whether the gains made by the coaching children actually resulted from the coaching procedure or from greater experimenter attention. He urged that the factor of experimenter attention be controlled in future investigations with the coaching procedure.

La Greca and Santogrossi (1980) developed a behaviorally oriented social skills training program which trained children in similar skills to those in the Oden and Asher (1977) study. An important difference in the La Greca and Santogrossi study over previous studies was the use of group training procedures. The researchers suggested that the group procedures appear to have a greater potential for utility than individual procedures, since the group setting offers an immediate environment in which children may practice their social skills. Their treatment procedure consisted of modeling, coaching, and behavioral rehearsal. Measures included a role play of peer interactions, classroom observations, assessments of social skills knowledge, and peer ratings. The outcomes of their study revealed that the treatment group improved their social behaviors in the role play situation and demonstrated greater verbal knowledge of how to interact with peers.

#### Self-Concept and Social Skills

Several studies have examined the possible relationship between self-concept and the socialization process. Fitzgerald (1965) developed a research study based on the notion that in social

interaction behavior is affected by the individual's image of self, the individual's image of others, and the image believed to be held by others about the individual. The researcher, therefore, examined the relationship between self-esteem and assumed similarity (i.e., the degree to which a person perceives another as similar to self). It was conjectured that persons with high self-esteem attribute more positive traits to themselves as well as to others, and thus experience their environment as more positive and accepting. On the other hand, persons with low self-esteem attribute more negative traits to themselves as well as to others. Low self-esteem persons thus perceive others as psychologically more distant and less similar, and they experience their environment as more frustrating and thwarting.

Fitzgerald's (1965) study affirmed the hypothesis that the magnitude of discrepancy or dissonance between the image of the self and the image the self has of another... would be greater for those expressing low self-esteem than for those expressing high self-esteem (p. 182).

The findings imply that an individual with low self-esteem feels less similar to others and less accepted by others, and thus perceives the world as more threatening.

Mann, Beaber and Jacobson (1969) examined the general effects of group counseling on the development of self-concept and social interaction in young educable mentally retarded boys. The results indicated that group counseling in a school setting can facilitate

self-concept and social skills.

Loud (1978) studied self-concept and environmental factors that stimulate young children. He used the Martinek-Zoichkowsky Self-Concept Scale (MZSCS) and the Teacher's Behavior Rating Scale (TBRS) to assess the possible relationship between social interaction and self-concept in kindergarten children. Teachers' perceptions of social interaction, he found, were significantly related to the children's self-concepts.

Assuming that social self-concept is related to and influenced by social relationships, Fryrear et al., (1977) designed a study to enhance the negative social self-concepts of juvenile delinquents by giving them feedback on positive social interactions. Delinquent boys who scored low on a measure of social and total self-concept were randomly assigned to an experimental group or a control group. The boys engaged in social interactions each week for five weeks, during which time their interactions were photographed. Each week the boys in the experimental group were given a set of pictures that showed them successfully engaged in pleasant, socially acceptable interaction which they put in a scrapbook. The members of the control group were deprived of the visual feedback, but instead filled scrapbooks with pictures cut from magazines. The results showed that the program was successful in raising the experimental group's self-concepts. As a result of the feedback, the boys improved in feelings of confidence and adequacy with regard to their social interactions.

Another attempt to improve the self-concepts of low self-esteem



children involved training children in the skills of encoding and decoding the communicative aspects of nonverbal behavior (Quesnell, 1979). The results showed that the training did promote an increase in positive self-esteem and in positive perception of self in relation to peers.

In a further attempt to relate social interactions and self-concept, Silvern et al. (1979) focused on developing social perspective taking in order to influence self-concept. Their program of training in social perspective taking resulted in improvement in social competence and knowledge on a measure of self-concept.

Eitzen (1975) examined changes in locus of control and self-esteem in relation to a teaching program in a family group home. The behavior modification program attempted to teach a variety of adaptive behaviors, including social skills. In a pre-test, the boys were found to have lower self-esteem than a control group of high school boys. Eitzen reported increases in both self-esteem and shifts toward internal locus of control throughout the boys' stay in the program. The findings indicated that the behaviorally based, family group home situation did result in the positive changes, however, it is uncertain whether the improvements were specifically the result of behavioral intervention, the small "family" environment, or other factors.

Recent research by Spence and Spence (1980) also studied changes in locus of control and self-esteem during social skills training with delinquent adolescent males. It was thought that as the boys became more successful in social interactions, there would be a concurrent

increase in self-esteem. The training consisted of instruction, discussion, modeling, role-playing and practice, videotaped feedback and homework tasks. The results showed that social skills training is indeed effective in producing an increase in self-esteem. However, the changes in self-esteem were of short duration and may have been the result of increased staff contact or other non-specific therapy factors.

Certain conclusions may be drawn from the literature review which lead to the research questions of this inquiry. First, both self-concept and social skills are vital aspects of the human developmental process for adequate and appropriate adjustment in society. Second, both self-concept and social skills may be improved as the result of specific intervention strategies. Finally, there is indication that training in social skills specifically may result in improvement of self-concept.

#### Scope of This Study

The purpose of this study is to carry on research in children's self-concepts and social skills. Many researchers have examined self-concept and social skills separately or in relation to other factors. Others have studied the possible relationship between self-concept and specific aspects of social interactions such as social perspective taking (Silvern et al., 1979), locus of control (Eitzen, 1975), and encoding and decoding of non-verbal behavior (Quesnell, 1978). However, no one has specifically researched the effect that coaching in friendship-making skills has upon the self-concepts of low

self-esteem children.

### Research Questions

The primary question that this research project addresses is: what is the relationship between the self-concepts of low self-concept children and participation in a social skills training program composed of coaching in friendship-making skills and behavior rehearsal?

Additional questions of interest in this project are:

1. What is the relationship between participation in a social skills training program and subsequent observations of social skills among low self-concept children?
2. What is the relationship between self-concept, social skills, and academic ability among low self-concept children following a social skills training program?

### Hypotheses

The specific hypotheses which this study will investigate are:

H1: Experimental condition participation will be positively related to post-test Piers-Harris Children's Self Concept Scale (PH) (Piers & Harris, 1969) scores.

H2: Experimental condition participation will be positively related to post-test social skills scores.

H3: Post-test PH scores will be positively related to post-test observer ratings in social skills and experimental condition participation when composite scores on the Iowa Tests of Basic Skills (ITBS) (Lindquist & Hieronymus, 1969) are held constant.

The following chapter will describe the method and procedure used. Chapter Three will present the results of this study, and Chapter Four will discuss these results and offer conclusions.

## CHAPTER TWO

### METHOD

This project investigated the effect of a four-week social skills training program upon the self-concepts of low self-concept children. It further studied the effect the training program had on the children's social skills, and the influence of academic ability on the relationship of participation in the training program and post-test self-concept scores and social skills scores. The participants in the study were selected on the basis of low self-concept scores on a pre-test self-concept measure and parental permission for participation. The children were assigned to one of two conditions, experimental or control, and participated in the procedures of their conditions in groups of four, organized by grade. The experimental condition included small group coaching in social skills, behavior rehearsal during game play, and review of the social skills. The control condition consisted of small group interaction about topics unrelated to social skills, game play, and more general interaction. Pre-test and post-test measures of both self-concept and social skills were made.

This chapter describes the details of the method and procedure for the project. Figure 1 presents a flow chart model of the procedure.

#### Subjects

The subjects in this study consisted of 22 third, fourth, fifth, and sixth grade male and female children. The children were all

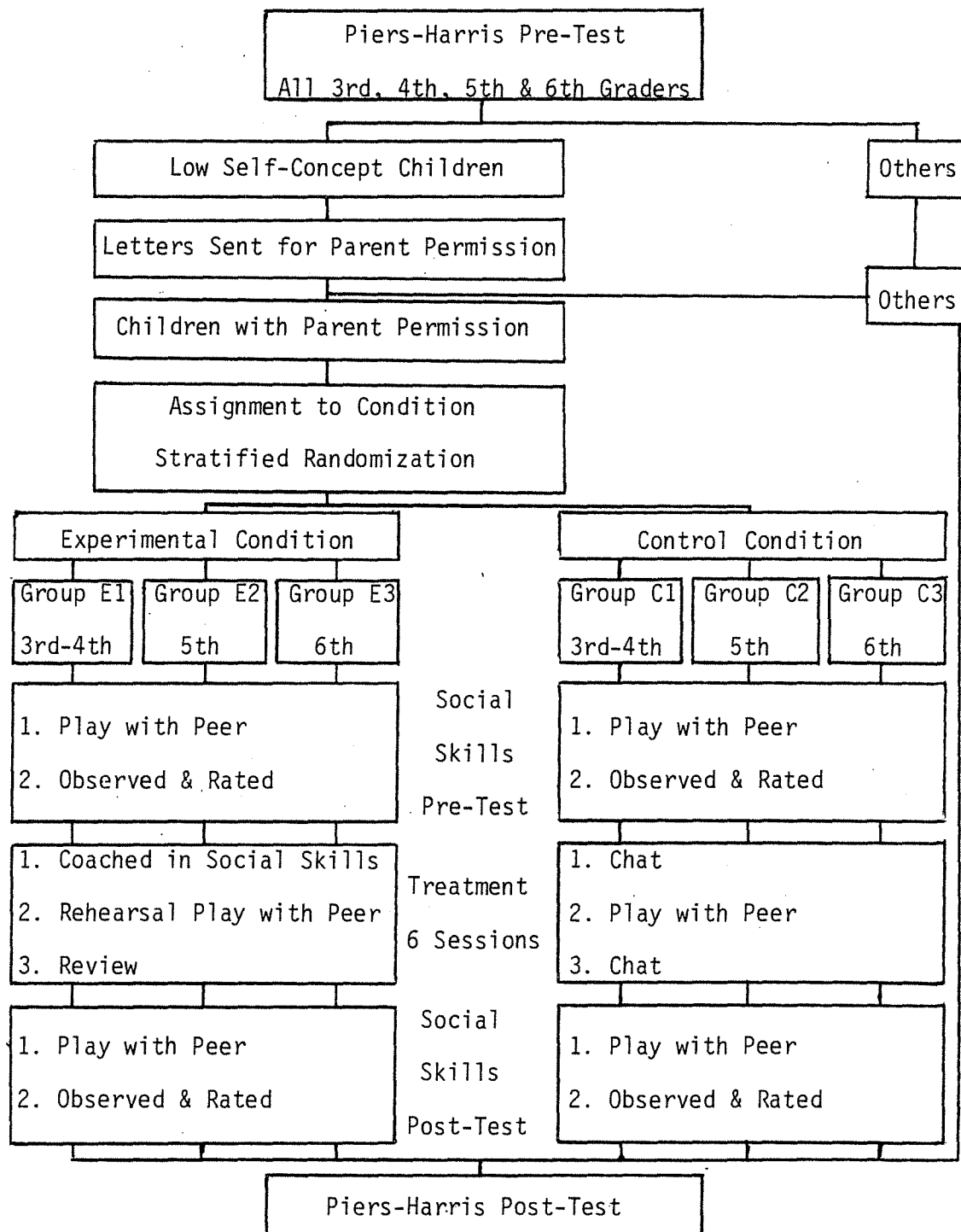


Figure 1. Model for experimental procedure.

enrolled in regular classrooms of an urban parochial school of approximately 150 students, including grades kindergarten through sixth. Located on the same campus are an affiliated junior high school, an affiliated high school, and an affiliated college.

The children selected to participate in the study were those whose scores on a pre-test of the Piers-Harris Children's Self Concept Scale (PH) fell at or below the mean of the PH normative sample, 51.42 (Piers, 1969), indicating low or low-average self-concept. Following the administration of the pre-test, letters were sent home to the parents of the children who qualified for the study. The letter explained the purpose and nature of the research study, and requested the parents' permission for their child's participation in the study (see Appendix for parent letter). Only those children whose parents granted permission participated in the remainder of the study.

While there were two treatment conditions, experimental and control, the children received treatment in six groups of four children each. There was one experimental condition group and one control condition group for the sixth grade, one experimental condition group and one control condition group for the fifth grade, and one experimental condition group and one control condition group for the third and fourth grades combined. The third and fourth grade participants were combined and randomly mixed in their groups because there were not enough qualified children in the two grades to have separate groups. The participants were grouped according to grade because it allowed the children to participate with children who were about the same age and

developmental level rather than with children who were much older or much younger and thus at a different developmental level. The participants were grouped in fours because it allowed for close contact between the experimenter and the children while retaining the advantages of group involvement (La Greca and Santogrossi, 1980).

There were 22 children who met the pre-test PH criterion and also received parental permission for participation: four third graders; three fourth graders; eight fifth graders; and seven sixth graders. Since children were to receive treatment in groups of four, two more children were needed to make the total number of participants an even multiple of four. Two children (one third grader and one sixth grader) whose pre-test PH scores (53) were within 2 points of the criterion and who received parental permission were chosen to participate with the other 22 children. This allowed for a total of 24 children to participate in the treatment procedure in six groups of four children each. In the assignment of children to experimental condition or control condition, it happened that one of the children who scored above the pre-test PH criterion was in the experimental condition and one was in the control condition. The scores of these two children were not used in the data analysis.

Each participant was assigned to an experimental condition group or a control condition group for their own grade level. A stratified randomization procedure was used for condition assignment in order to match the experimental condition and the control condition according to pre-test PH scores. According to this procedure, the sixth grade



participants were rank ordered according to pre-test PH scores. Then the two highest ranked children were randomly assigned to a condition, one to the experimental condition and one to the control condition. Each succeeding pair of rankings was likewise assigned to conditions. The same procedure was used for condition assignment with the fifth grade participants and with the third-fourth grade participants. Figure 2 presents the model for the selection of participants and their assignment to condition and group.

### Setting

The PH pre-test and post-test were conducted in the classrooms at the school. The teacher introduced the PH administrator, and then remained present but uninvolved during the test administrations.

The experimental procedures were conducted in two different rooms on the campus because of differences in room use schedules at different times of the week. Both rooms were separate from the classrooms and relatively quiet and undisturbed.

One room which was used two days per week during the treatment period was a large room normally used as a dining room. The room was equipped with several large tables and a few small tables, as well as a serving area which was supplied with items used for serving. The children were not allowed in the serving area during treatment sessions. On five or six occasions during the treatment period, a school staff member came into the room briefly to get something from the serving area. Since the treatment sessions were conducted in an area of the room away from the serving area and since the staff was

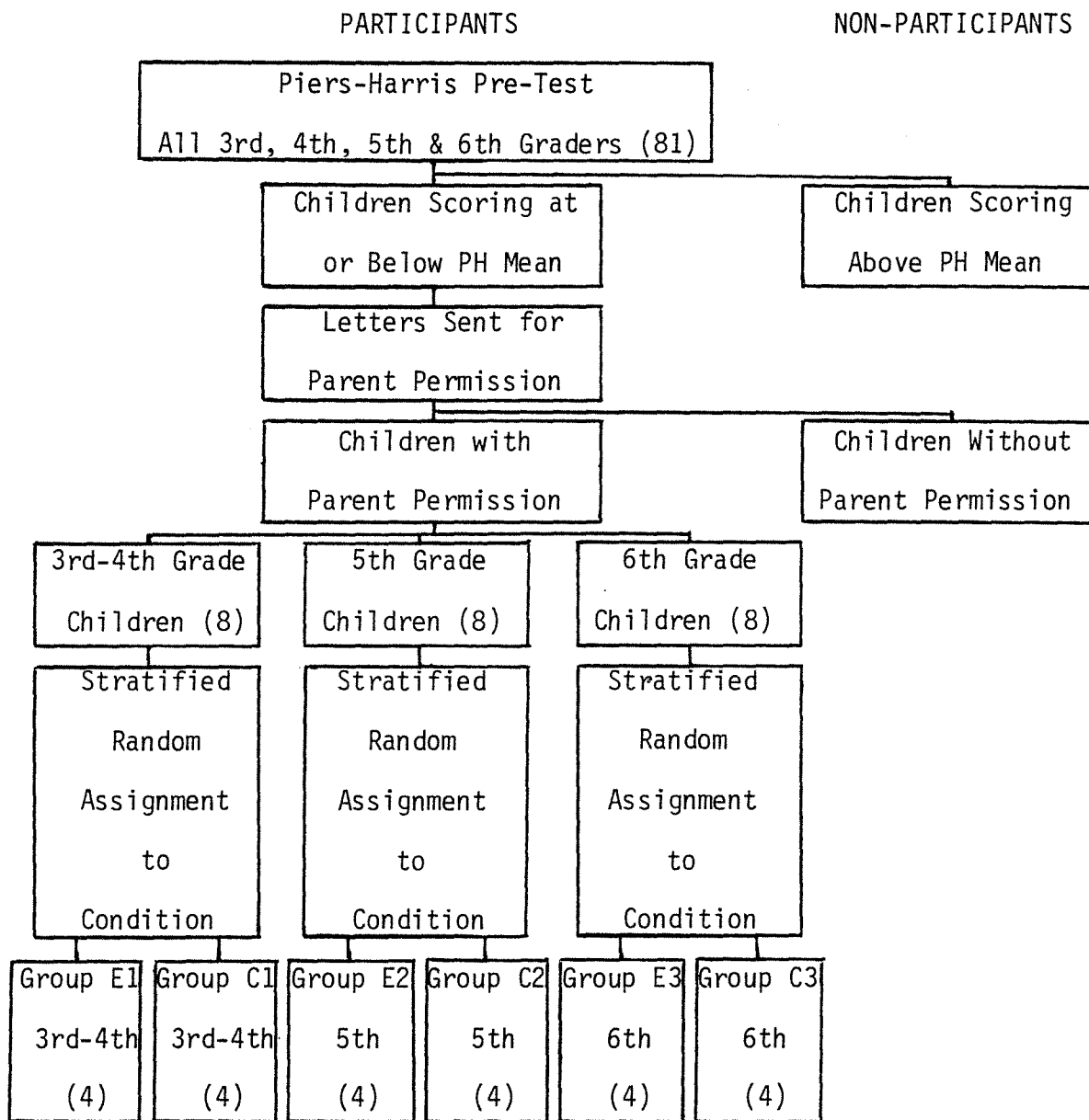


Figure 2. Model of procedure for selection of children for participation, and assignment to condition and group. (Numbers in parentheses indicate the number of children involved at a particular level; E indicates experimental condition; C indicates control condition.)

quiet while in the room, it did not appear to be disruptive or distracting for the children.

The other room which was used only one day per week during the treatment period was also a large room that was normally used for home economics classes. The room was equipped with several tables, sewing machines, class materials, and a separate kitchen area. The children were not allowed to enter the kitchen area nor to handle machines or materials in the room during treatment sessions. The children were readily compliant with the restrictions, and did not appear to be distracted by the various objects in the room.

Both rooms had windows which opened on to the same, infrequently used parking area. Since the windows were equipped with blinds, there was no visual stimulus to distract the children. Since classes were in session in other rooms during the treatment periods, there was little outside noise to distract the children from treatment activities.

In both rooms, the children and the experimenter sat around one large table for the group discussions. During the game play phase of the sessions, each pair of children used separate tables in the rooms.

### Apparatus

#### Self-Concept Measure

The instrument used to assess self-concept was the Piers-Harris Children's Self Concept Scale (PH) entitled, "The Way I Feel About Myself" (Piers & Harris, 1969). The PH consists of 80 simple, declarative statements worded at a third grade level to be answered yes or no,

according to the way one generally feels. The scale was designed primarily for research on children's self attitudes and correlates of these attitudes.

The PH has gone through several revisions in its development (Piers & Harris, 1964; Piers, 1969). The original pool of 164 items was derived from Jersild's (1952) collection of children's statements about what they liked and disliked about themselves. Items included in the final form of the scale were selected through a series of pilot studies according to the following criteria: those items on which the yes-no split was no more uneven than 90:10, with a few exceptions; those items which discriminated between subjects who were high and low on total scores; those items which were answered in the expected direction by at least half of the subjects who had high total scores; and an equal number of positively and negatively stated items in order to control for acquiescence-response sets.

The PH was standardized on 1193 children in grades 4-12, using the earlier 95-item scale (Piers & Harris, 1965). No consistent sex or grade differences in means were found. The study reported an internal consistency index by Kuder-Richardson Formula 21 of .90 for third grade girls, .93 for third grade boys, .89 for sixth grade girls, and .90 for sixth grade boys. The study also reported a four month test-retest reliability coefficient of .72 for third grade children and .71 for sixth grade children ( $p < .01$ ) (Piers & Harris, 1965). Piers (1969) thus judged that the scale has good internal consistency and adequate temporal stability. However, since changes in group means upon retest have been found to be in the direction of a higher score

even without treatment, she emphasized the importance of using control groups to ascertain changes in self-concept.

More recent reliability studies, utilizing the revised 80-item scale, have confirmed the results of earlier studies. Piers (cited in Piers, 1977) reported internal consistency coefficients of .88 with sixth grade girls and .90 with sixth grade boys. Querry (1970) reported a three to four week test-retest reliability coefficient of .86 with third and fourth graders.

An attempt was made in the beginning to build content validity into the PH by measuring the areas about which children reported qualities they liked or disliked about themselves (Jersild, 1952). However, few studies have been conducted to verify the validity of the scale. Piers (cited in Piers, 1969) compared fourth and sixth grade children's self reports on the PH to the way their teachers and peers rated them, and obtained correlations which ranged from non-significant to .49. Cox (1966) using 97 children in grades six through nine, obtained significant correlations between the PH and teacher and peer ratings of socially effective behavior (.43 and .31). Two studies indicate good convergent validity. Mayer (1965) compared scores on the PH to scores on the Lipsitt Children's Self-Concept Scale (1958) with a sample of 98 retarded subjects, aged 12 to 16. He reported an  $r$  of .68 ( $p < .01$ ). Schauer (1975), working with a sample of 215 fifth and sixth graders, reported a correlation of .85 between the PH and the Coopersmith Self-Esteem Inventory (1959) which is similar to the PH in format and age range.

Bentler (1972), in his review of the PH, states that "the scale possesses sufficient reliability and validity to be used in research" (p. 306). He further recommends the PH for studies of changes in self-concept provided a control group is used. Wylie (1974) also judged the reliabilities of the PH satisfactory for research purposes.

The PH scores used for the purposes of this study were the total raw score for each child.

#### Social Skills Measure

The social skills assessment instrument used was a behavioral observation method similar to that developed by Oden and Asher (1977). Two observers observed and coded certain social behaviors of the participating children during pre-test and post-test behavioral assessment sessions while the groups of four children played games in pairs.

The two types of social behavior coded were the same as in the Oden and Asher (1977) study: task participation and social orientation. The measures were selected from pilot research by Oden and Asher (1977) because the behaviors corresponded to the social skills concepts to be coached and because they were found to be capable of being reliably assessed. Task participation was simply whether or not the target child was participating in the activity. Social orientation was whether or not the target child's behavior was validating and supportive of the partner. Behavior toward the partner that was considered validating included looking, touching, or talking in a neutral way toward the partner, and supportive behavior included smiling at or being helpful toward the partner. Behavior that was considered non-validating and

non-supportive included: uncommunicative behavior (not looking at, touching, or talking to the partner); ignoring behavior (looking away, or turned away from partner); uncooperative behavior (bullying the partner, or hogging materials); and antisocial behavior (name-calling, or making faces at partner).

While the children played the games, the observers observed and coded the children's behavior as to task participation and social orientation. The observers made concurrent observations on a child-by-child basis throughout each session. The 12-minute game session was divided into 72 10-second intervals. The observers observed and coded the behavior of each child every 40 seconds in rotation, such that the observers made an observation every 10 seconds on a different child. In this manner, 18 observations of each child were made during the session. The task participation score for each child could range in frequency from 0 to 18, and the social orientation score could range in frequency from 0 to 18, indicating frequency of supportive and validating behavior. A total score composed of the task participation score and the social orientation score could range in frequency from 0 to 36. (See Appendix for Observation Coding Form.)

The two observers were trained prior to the pre-test social skills assessment sessions. The observers studied the given definitions of task participation and social orientation, and discussed their interpretation in terms of children's social behaviors. The observers then practiced the observation and coding procedure in a trial session with four fifth grade children who were not participants in either the

experimental condition or the control condition. During this trial session, the children played games in pairs just as in the actual social skills assessment sessions with the experimental and control children.

Two observers were used during the observation sessions in order to provide a measure of observation reliability. The index of interrater reliability used was the percentage of total agreements among the two observers out of the total observations made. The scorings of the two observers were compared on an observation by observation basis. During the practice session, the observers agreed on 98% of their observations. In the pre-test social skills assessment, the observers agreed on 91.5% of their observations, and in the post-test assessment they agreed on 95% of their observations. These figures are comparable to those reported in the Oden and Asher (1977) study: 76.1% to 97.2% agreement among two observers over six play sessions, with an average reliability of 90.9%.

It should be noted, however, that further examination into the reliability of the social skills assessment instrument in the present study was made following the completion of the data collection. When observer agreements on just the negatively scored observations (i.e., not participating in the task or not socially oriented) were studied, it was found that interrater reliability was considerably lower. During the pre-test assessment, one or both of the observers scored behaviors negatively in 134 observations (out of a total of 432 observations), and in 38% of these observations they agreed and in 62% of them they disagreed. During the post-test assessment, one or both of the



observers scored behaviors negatively in 69 of the observations (out of a total of 432 observations), and in 39% of these observations they agreed and in 61% of them they disagreed. These figures should not be taken as a sole index of the reliability of the observation procedure since to do so would be to ignore the 298 times during the pre-test assessment and the 363 times during the post-test assessment when the observers did agree that the behavior exhibited was socially positive. However, since the observers did have much lower agreement percentages when negative scorings were made, it does indicate that the overall 91.5% agreement computed for the pre-test and the overall 95% agreement computed for the post-test should be interpreted with caution, and that the actual reliability of the social skills assessment procedure is questionable.

The social skills scores used for data analysis consisted of the total observation score of each child. The observations of only one of the observers were used for data analysis; the second observer's observations were only used as a reliability check.

#### Academic Abilities Measure

The instrument used to assess academic abilities was the Iowa Tests of Basic Skills (ITBS) (Lindquist & Hieronymus, 1969). All children participating in the study had been administered the ITBS two months prior as part of the school's regular testing program.

The ITBS is a general achievement battery which focuses on assessing fundamental academic skills in grades one through nine. It was purposely designed to assess general functioning skills rather

than factual content in order to provide a measure of the functional abilities of students. The battery yields subtest scores in vocabulary, reading, language skills, work study skills, and mathematics, as well as an overall composite score.

The development of the ITBS was begun in 1935 by the staff of the College of Education at the University of Iowa. Since that time, the authors have engaged in ongoing research of test development and utilization as well as educational philosophy and methods. As a result many editions of the ITBS have been published. The battery has been widely used in the United States for 40 years.

The current edition of the ITBS was normed on the basis of a nationwide standardization program in 1977-1978, using a sample of approximately 15,000-18,000 students in 165 school districts. Utilizing Kuder-Richardson Formula 20, reliability coefficients of .98 were reported for each composite score in grades three through six ("Preliminary Technical Summary," 1979).

Concerning validity, the authors state that the content specifications "were determined through systematic consideration of courses of study, statements of authorities in method, and recommendations of national curriculum groups" (Hieronymus, Lindquist, & Hoover, 1979, p. 2). However, they encourage test users to compare the general objectives of their instructional program with the stated objectives of the ITBS in order to judge the validity of the battery for their purposes.

One reviewer of the ITBS concluded that the battery is "a

satisfactory instrument for obtaining information on the status of pupil development in the basic skill areas" (Harris, 1978, p. 57). Likewise, another reviewer stated: "this writer considers the ITBS to be an excellent measure of basic skills. It is one of the most carefully constructed achievement tests available" (Pyrchak, 1978, p. 58).

The ITBS scores used for the purposes of this study were each child's composite score given in terms of national percentile rank. It was thought that the composite score provided the best indicator of a child's academic ability to benefit from the coaching procedure.

#### Games

The games used for the play sessions were those found to be conducive to positive peer interaction (Oden & Asher, 1977). The games were selected according to three criteria: 1) the game had to be appropriate for the age level of the subjects; 2) the game had to involve a fair amount of interaction between two players; and 3) the game had to be one which could be completed within a single 12-minute play session. Eight games were selected so that a different game was used for each of the pre-test and post-test social skills assessment sessions and the six treatment sessions. Table 1 describes the games used.

#### Procedure

##### Pre-Test Self-Concept Assessment

All children in the third, fourth, fifth, and sixth grade

Table 1  
Games Used in Play Sessions

Game	Description
Blockhead	Players take turns adding blocks to a tower. The first player whose addition causes the tower to fall, loses.
Booby-trap	Players remove colored pegs from a board, attempting not to move a spring bar which presses against the pegs.
Dominoes	Players attempt to use up their stack of dominoes by connecting them to dominoes on the board which have the same number of dots.
Find the Foreign Coin	Children are given a jar filled with coins and are asked to find the foreign coins. The coins are specified by giving the country of origin and denomination.
Stay Alive	Players take turns moving levers which cause opponent's marbles to drop off the board.

Table 1 (continued)

Game	Description
Kerplunk	Players take turns removing sticks from a cylinder. Together, the sticks hold up marbles. Removing sticks one at a time eventually causes the marbles to drop. The player causing the least number of marbles to drop wins.
Picture Drawing	Children are provided with a single piece of paper and several colored pens. Together, they must draw a picture.
Tic-tac-toe	Players take turns placing a symbol in one of six positions on a 3 x 3 grid, attempting to get three of their symbols in a single row, column or diagonal before the opponent does so.

classrooms of the school were administered the PH as a means of identifying the low self-concept children for participation in the study. The scale was administered in each classroom by the same male adult who was introduced by the classroom teachers as someone who was interested in learning about how children think about themselves. The administrator introduced the scale as prescribed in the PH manual (Piers, 1969), making the following or similar comments:

I am working on a project to find out some important things about children. I need your help to do this. So, we are going to do a little exercise together today. I am going to hand out some papers. On these papers are some questions about how you think about yourselves. It is very important that you answer the questions honestly. Your answers will be used just for this project, and will not be given to anyone else. The results will not affect your school grades. So you can be really honest.

Don't just answer the way you think people would want you to.

This is not a test, and there are no right or wrong answers.

The scale was then distributed, and the children were shown where and how to fill out the identifying data. The administrator read aloud the instructions printed in the scale booklet. He stressed the importance of marking yes or no for every item, and demonstrated on the blackboard what appropriate and inappropriate markings would look like. The administrator read aloud all items on the scale twice. He briefly defined words which the children indicated they did not understand.

### Pre-Test Social Skills Assessment

The children in both the experimental condition and the control condition were observed and evaluated on social skills in the manner described under apparatus. The pre-test observations occurred one week after the self-concept pre-test during a separate session and according to the following procedure.

The experimenter, an adult male, was introduced by the teacher in each classroom as someone who would ask children to try out some games. The experimenter provided the following explanation to the classroom:

I am interested in finding out what games kids like to play with another person. I have picked some of your names out of a hat to play games with a classmate. I'm sorry we don't have time to take all of you for the games. For those of you who do get to play the games, I will want to know each of your opinions on how much fun the game is to play.

The children were taken out of the classroom in their pre-assigned groups of four, and escorted to a separate room where the observers, two female adults, were waiting. The observers were introduced as friends of the experimenter who were also interested in the games and who would keep track of the time. The children were seated in pairs next to each other, with each pair being at opposite ends of a long table. The experimenter gave instructions on how the game might be played and told the children that they would have 12 minutes to play. He then moved to another part of the room away from the children. If the children sought out help, directions, or some game rules from the

experimenter, he asked them to decide for themselves. Unless there was some major problem (e.g., fighting or some similar event), the experimenter did not interfere with the children during the game session.

While the children played the games, the observers observed and coded the children's behavior as to task participation and social orientation. The game period was 12 minutes long and was divided into 72 10-second intervals. The observers observed and coded each child's behavior every 40 seconds in rotation, such that an observation was made every 10 seconds on a different child. As such, there was a record of 18 observations for each child by the end of the session. The observers were not informed as to whether the children were in the experimental condition or the control condition.

After 12 minutes, the experimenter informed the children that time was up. He asked the children how they liked the game and if they had a good time. The experimenter thanked the children for participating and asked if they would care to play another game on another day. The children were then escorted back to the classroom.

#### Experimental Condition

The experimental procedures and conditions generally corresponded to those developed by Oden and Asher (1977) with some modifications to suit the present study. The coaching procedure used in the experimental condition consisted of three basic components: 1) coaching, involving verbal instructions in four major types of social skills (participation, communication, cooperation, and validation-support); 2) rehearsal,



involving an opportunity to practice the social skills during game play with a peer; and 3) review, involving a recounting of the social skills with reference to the child's behavior during rehearsal.

Six of these three-part coaching sessions were held over a four-week period. There were two sessions each week with no sessions occurring on two adjacent days. Each session lasted approximately 20 minutes with 5 minutes for coaching, 12 minutes for rehearsal, and 3 minutes for review.

The first treatment session occurred within a week of the pre-test social skills assessment session. The experimenter met each experimental condition group of four children at the classroom and escorted them to the experiment room. The experimenter explained to the group that he wanted to talk about the game the children played the last time before they tried out a new game. The experimenter asked some general questions about the previous game session such as, "Which game did you play last time?," "Who did you play with?" He probed a bit, giving each child an opportunity to express a positive, negative, or mixed reaction to game play in the previous session.

#### Example

Coach: How did it go? Was it fun? Or was it a drag? (The coach waits for a response.) Okay, be sure to tell me how you really felt. Be honest so I'll know if it's a good or fun game or not for kids to play together. Now, what do you think again? Was \_\_\_\_\_ (name of game) a fun game to play with another person in your

opinion?

Child: (Examples) Yes, sort of, not much, okay, terrible, etc.

Coach: Do you have any ideas about what made the game fun (or not)? (The coach waits for a response.) Some other kids have played the same game and when I asked them how they liked it, they said it was great! Then two other kids played the same game and they said it was awful! I'm interested in figuring out why some kids like the game and some kids don't, even when the game is the same one. Do you have any ideas about what makes a game fun to play with another person? (Oden, Asher, & Hymel, Note 1, p. 6)

After asking the children if they had any ideas concerning what makes a game fun or not fun to play with another person, the experimenter allowed time for the children to respond, encouraging responses from all four. The experimenter listened and then said, "Good and you will probably have some more ideas later. I have some ideas I'd like to talk with you about. First of all..." and so forth. In this manner, the experimenter moved the discussion to the major types of social skills to be coached. The experimenter then used the same basic steps outlined below for each social skill concept.

The children were presented with each concept in instructional form. For example, "First, you should participate." Then the children's understanding of each concept was probed and coached using several steps:

a) The children were asked if he/she knew what was meant by each

concept.

- b) The children were asked to give examples of each concept in terms of the game played in the previous session.
- c) The children were asked to give examples of opposite behaviors (e.g., not participating) if two children were playing together.
- d) The children were asked for other examples of each concept and of opposite types of behaviors. The coach attempted to get each child to elaborate on his/her ideas. The coach tried to get the children to think of examples as much as possible rather than providing the children with examples.
- e) The coach then provided the children with any other remaining examples from the ones provided below for each concept:

Participation: get involved

get started

pay attention to the game or activity

try to do your best

Cooperation: take turns

share the game or materials

make a suggestion if you have a problem with  
the game

give an alternative if you disagree about  
the rules

Communication: talk with the other person

say things about the game or yourself

ask a question about the game

ask a question about the other person  
 listen when the other person talks  
 look at the other person to see how he or she  
 is doing

#### Validation-

Support: give some attention to the other person  
 (Friendly-fun say something nice when the other person does  
 -and-nice) well  
 give a smile sometimes  
 have fun in the game  
 offer some help or suggestions  
 give some encouragement

(Oden et al., Note 1, p. 8).

If, during coaching, a child's examples were inaccurate or vague, the coach responded with, "I was thinking of something different, like for example . . ." If the children seemed to understand, the coach said, "Yes, you understand what I mean," or, "Right, that's what I meant," etc. When a child gave an example, the coach tried to put it into a two or three word form whenever possible, making it easier to remember.

If the children drifted from the conversation, the coach responded by listening and waiting for a pause in the child's conversation. The coach then directed the conversation back to the concept being discussed. At all times the coach tried to keep the conversation on the topic.

The coach attempted to instruct the children on all four major concepts during each session. If the children had a great deal of difficulty comprehending the concepts, the coach focused on only one or two concepts during the first session and introduced the other concepts in the next session. As much as possible, however, the coach tried to discuss all four concepts during each session.

The following is an example of coaching the concept of participation:

Coach: Okay, I have some ideas about what makes a game fun to play with another person. There's a couple of things that are important to do. First, you should participate. Do you know what participation is? Can you tell me in your own words?

Child: Yeah, doing something.

Coach: Yes, right. Let's say you and I are playing the game you played last time. What was it again?

Child: \_\_\_\_\_ (Name of game or activity.)

Coach: Okay, tell me then what would be an example of "doing something" in \_\_\_\_\_ (name of game)?

Child: I'd pick up the pieces and start.

Coach: Right. That's an example of participation. What do you think? Would participating make the game fun for both you and the other person?

Child: I guess so.

Coach: Can you think of any other examples of participation?

Child: I'm not sure.

Coach: Let's say you and I are playing \_\_\_\_\_, can you give me an example of what would not be participating in the game?

Child: Staring out the window.

Coach: Yes, that's not participating! Would that make the game fun for both you and the other person?

Child: No!

Coach: So you wouldn't just stare out the window. Instead, you would \_\_\_\_\_ (e.g., get the game started, etc.) and then you would be participating. What are some other examples of participating when you play \_\_\_\_\_ (name of game)?

(Oden et al., Note 1, pp. 8, 9).

At the end of discussion of all four major types of social skills the coach checked the children's recall by asking the children to remember all four ideas just suggested for having fun in a game or activity with another person. The coach asked the children to name them. Even if the children recalled the social skills concepts, the coach quickly reviewed the concepts and provided a couple of examples for each concept.

Following the coaching instruction, the children played a game for 12 minutes in pairs. Over the six treatment sessions, the children rotated partners within their groups of four. Before the children began to play, the coach told the children to try out some of the ideas just

talked about to see if the ideas helped to make the game fun to play. The coach then gave instructions on how the new game might be played, and then moved to another part of the room. Again, the coach did not intervene in the game. If the children asked for help, the coach suggested that they decide for themselves.

After 12 minutes, the coach told the children that the time was up. He asked the children how the game went and how the ideas discussed before the game worked. The coach provided a couple of specific examples for each. After this review, the children were asked if they would like to play a different game on another day and to talk more with the coach. The children then returned to their classroom.

During the second treatment session, the coach repeated the same procedures and coaching steps as outlined for session one. Before discussing the concepts the coach checked to see if the children remembered the concepts on their own. In addition, the coach asked if the children had some more ideas about what makes games fun to play.

Beginning with the third treatment session, the coach reviewed all four social skill concepts and then focused on the specific concepts which appeared problematic for the children. The choice of concepts to be focused on in discussion was determined on the basis of the children's ability to verbalize and discuss each concept during the coaching phase and on the children's attempts to employ the concepts during the rehearsal phase. The coach continued to apply the same steps and use the same procedures as outlined earlier with each concept, but emphasized those concepts which needed more attention.

Once the children began to understand and remember the social skill concepts the coach began to discuss their usefulness in the classroom and on the playground. Following the same steps described for session one, the coach asked the children to generate specific examples for each concept from their experiences in the classroom or on the playground. The coach then instructed the children to try out some of the ideas in the classroom and on the playground.

#### Example

Coach: Do you ever have a chance to play a game or activity in class with other kids? Can you tell me the names of some of the games or activities? Okay, is that one fun to play with someone? Do you think the same ideas we've been talking about might make some of these games fun to play with someone? Is there anything you can think of that makes the classroom situation different from when you play in the room? Okay, so what would be an example of \_\_\_\_\_ (e.g., participation) in the classroom while you were playing \_\_\_\_\_ (name of game or activity used for an example)? (The coach proceeds in this manner for each of the four concepts.) Okay, maybe you could try out some of these ideas in class and in the next game and see how they work. Okay.

(Oden et al., Note 1, p. 13).

During the review, the coach reminded the children to try out some of the ideas in the class or on the playground.



The same procedure of coaching, rehearsal and review was continued through the sixth treatment session.

### Control Condition

The children in the control condition received identical treatment as the children in the experimental condition, except that the control children did not receive coaching instruction in social skills. Instead, the control children "chatted" with the experimenter about topics unrelated to social skills both before and after the games. The experimenter in the control condition was the same male adult as in the experimental condition.

The control condition groups participated in six treatment sessions held over a period of four weeks. Each of the six sessions was composed of three parts: 1) a 5-minute small group interaction with the experimenter about the games and other topics unrelated to specific social skills; 2) a 12-minute game period in which the children played the same games as the experimental children; and 3) a 3-minute post-play small group interaction with the experimenter about the games and topics unrelated to social skills.

All six sessions were conducted in the same manner. The experimenter met each control condition group of four children at the classroom and escorted them to the experiment room. The experimenter explained that he wanted to talk to the children about the game they played last time as well as get to know them a little better before they tried out a new game. No instruction in social skills was given.

The group discussed topics unrelated to social skills.

Following the group interaction, the children played a game for 12 minutes in pairs. Over the six sessions, the children rotated partners within their groups of four. The experimenter gave instructions on how the game might be played, and then moved to another part of the room. Again, the experimenter did not intervene in the game.

When the 12 minutes were up, the experimenter stopped the children and interacted with them about the game and topics unrelated to social skills. The children were asked if they would like to play a different game on another day. They then returned to the classroom.

#### Post-Test Social Skills Assessment

The post-test social skills assessment session occurred within a week of the last treatment session. The children in both the experimental condition and the control condition were again observed and evaluated on task participation and social orientation, following the same procedure described for the pre-test social skills assessment. The assessments were made by the same two female observers as in the pre-test assessment.

#### Post-Test Self-Concept Assessment

The post-test self-concept assessment occurred within a week of the post-test social skills assessment. All of the children in the third, fourth, fifth, and sixth grade classrooms were again administered the PH by the same examiner as in the pre-test assessment. The post-test PH was administered to all of the children in the third through

sixth grades rather than to just the children who participated in the experimental and control condition procedures so that no associations would be drawn between the PH administrations and participation in the treatment procedures. Throughout the experimental procedure the PH administrations and the treatment procedures were conducted as isolated events.

#### Extraneous Variables

This research format controlled for several possible variables that could have confounded with the results. The Hawthorne effect was minimized by having both the experimental condition and the control condition participate in out-of-the-classroom activities. A placebo was created with the control condition by having them also participate in pre-game play and post-game play interactions with the experimenter during the treatment sessions. To control for experimenter bias, the observers who observed and evaluated the children's social skills did not know whether the children being observed were in the experimental condition or the control condition.

One extraneous variable which was not controlled for was that observers were only present during the social skills assessment sessions rather than during the six treatment sessions as well. It is possible when the observers were present during the social skills assessment sessions that the children succumbed to demand characteristics in their behavior because of being observed. If the observers had been present during the six treatment sessions as well as during

the social skills assessment sessions, then the possibility of the children perceiving that any extra expectations were being placed upon their behavior by virtue of the observers' presence would have been eliminated.

### Data Analysis

Hierarchical multiple regression analyses in an analysis of covariance format were conducted to test all three hypotheses. A hierarchical multiple regression analysis can examine the relation between a dependent variable and several independent variables as well as indicate the magnitude of variance in the dependent variable attributable to each of the independent variables. It allows for the control of several sources of variance in the dependent variable, and provides a test of the combined effects of two or more independent variables on a dependent variable (Kerlinger, 1973). In each multiple regression analysis conducted for this study, the treatment condition variable was entered into the equation as a dummy variable with "0" indicating the control condition and "1" indicating the experimental condition. In this way it was possible to test the statistical significance of the relation between the dependent variable of a hypothesis and treatment condition membership while controlling for the variance attributable to other independent variables.

Hierarchical multiple regression analysis also allowed for another analysis of the data which is analogous to an analysis of covariance, because analysis of covariance is "simply a variation on the theme of multiple regression" (Kerlinger, 1973, p. 649). An analysis of

covariance tests the significance of the differences between means after controlling for initial differences between treatment conditions on a covariate, that is, a variable that is correlated with the dependent variable. Similarly, a hierarchical multiple regression analysis can test the significance of differences between treatment conditions by using a dummy variable (analogous to testing the differences between means), and at the same time control for the variance in the dependent variable which is attributable to another independent variable, or a covariate. A regression analysis yields a coefficient of determination ( $R^2$ ) for the relation between the dependent variable and all the independent variables in the equation, as well as an  $R^2$  for the relation between the dependent variable and one independent variable or a covariate. To test the significance of the differences among means after adjusting for the effects of the covariate, the variance in the dependent variable due to the covariate is subtracted from the total variance accounted for by the regression of the dependent variable on all of the independent variables in the equation (i.e.,  $R^2_{y.12\dots k} - R^2_{y.1}$ ). This remainder is then tested with an  $F$  test using the following formula from Kerlinger (1973, p. 649):

$$F = \frac{(R^2_{y.12\dots k} - R^2_{y.1}) / (k_1 - k_2)}{(1 - R^2_{y.12\dots k}) / (N - k_1 - 1)}$$

where  $k_1$  equals the number of independent variables associated with the larger  $R^2$ , and  $k_2$  equals the number of independent variables associated with the smaller  $R^2$ . In this manner, an analysis of covariance type of

analysis may be conducted using multiple regression statistics.

In order to analyze the data from another perspective, alternative statistical analyses were also conducted for hypotheses one and two, a t test and a Mann-Whitney U test respectively. The multiple regression analyses, on the one hand, directly tested the statistical significance of the relation of the dependent variable for each hypothesis with treatment condition membership along with the other independent variable(s). The t test and U test, on the other hand, simply tested the differences between the two conditions on the dependent variable. The t test evaluated the statistical significance of the difference between the dependent variable means of the two treatment conditions. The U test (a nonparametric alternative to the parametric t test) similarly evaluated the statistical significance of the difference between the two conditions by comparing the two sample distributions of the dependent variable. The use of different types of statistical analyses allowed for a more thorough understanding of the data collected in the study.

For hypothesis one, three hierarchical multiple regression analyses were conducted with post-test PH scores as the dependent variable in each. In the first analysis, treatment condition was the only independent variable. The second hierarchical regression analysis included pre-test PH scores as another independent variable to separate out their effects on post-test PH scores. This was necessary because the stratified randomization procedure used for treatment condition assignment resulted in matched treatment conditions based on pre-test PH scores.

The third regression analysis added age, grade, and sex as independent variables to control for their effects on post-test PH scores. In addition,  $R^2$  statistics from these analyses were used in a test which is analogous to an analysis of covariance (Kerlinger, 1973). This was done in order to subtract the variance due to pre-test PH scores (the covariate) from the total variance in post-test PH scores due to the combination of pre-test PH scores and treatment condition. A  $t$  test for the difference between means for correlated groups was also conducted to compare the experimental condition with the control condition on post-test PH scores while taking into account the matching between conditions on pre-test PH scores.

For hypothesis two, two hierarchical multiple regression analyses were conducted with post-test social skills scores as the dependent variable in each. In the first analysis, treatment condition was the only independent variable. In the second analysis, treatment condition and pre-test PH scores were the independent variables. A Mann-Whitney  $U$  test for the differences between two sample distributions was also conducted to compare the experimental condition with the control condition on post-test social skills scores. The nonparametric Mann-Whitney  $U$  test was used because the post-test social skills scores formed a negatively skewed distribution and thus did not meet the normal distribution requirement for the use of a parametric  $t$  test.

For the third hypothesis, a hierarchical multiple regression analysis was performed with post-test PH scores as the dependent variable and treatment condition, post-test social skills scores, pre-test

PH scores, and composite ITBS scores as the independent variables. A second multiple regression analysis was conducted to examine the analogous relationship of post-test social skills scores as the dependent variable with treatment condition and ITBS scores as the independent variables.

In addition to the multiple regression analyses and the  $t$  tests, Pearson product moment correlation coefficients were computed between each of the variables in the study, including pre-test PH scores, post-test social skills scores, ITBS scores, sex, age, and grade. This allowed for an examination of the correlations among the variables.

A statistical significance level of at least .05 was required for acceptance of any of the hypotheses.



## CHAPTER THREE

### RESULTS

This chapter presents the findings of the study. The relationship of the post-test scores on the Piers-Harris Self Concept Scale (PH) with the social skills training of the experimental condition will be reviewed first. Second, the relationship of post-test social skills scores with the social skills training of the experimental condition will be discussed. Finally, the relationship of the post-test PH scores with the post-test social skills scores, the ITBS scores, and the experimental condition experience will be examined. The implications of these results will be discussed in Chapter Four.

Before discussing the results directly related to the hypotheses, certain characteristics of the data should be noted. Table 2 presents the means and standard deviations of each measure of the variables for the experimental condition and the control condition separately as well as the two conditions combined. Pearson product moment correlation coefficients were computed to determine relationships between the variables in the study, using data from both the experimental children and the control children without separation. These variables included pre-test PH scores, post-test PH scores, pre-test social skills scores, post-test social skills scores, ITBS scores, sex, age, and grade. It was found that there was a significant correlation between pre-test PH scores and post-test PH scores (  $r(20) = .722, p < .001$  ). No other

Table 2  
Mean Scores and Standard Deviations of Variable Measures  
for Experimental and Control Conditions

Measure	Mean	Standard Deviation
PH Pre-Test		
Experimental (E)	40.0	10.3
Control (C)	41.4	8.3
Combined E and C	40.7	9.2
PH Post-Test		
Experimental (E)	49.8	14.2
Control (C)	50.0	10.8
Combined E and C	50.2	12.4
Social Skills Pre-Test		
Experimental (E)	33.2	3.0
Control (C)	30.9	3.1
Combined E and C	32.0	3.1
Social Skills Post-Test		
Experimental (E)	34.6	1.3
Control (C)	33.8	2.8
Combined E and C	34.2	2.2
ITBS		
Experimental (E)	70.7	15.5
Control (C)	65.5	17.4
Combined E and C	68.1	16.3

significant correlations were found between any two of the other variables except age and grade (  $r(20) = .910, p < .001$  ) which was to be expected. Table 3 presents the correlation coefficient between the relevant variables of the study.

Another characteristic of the data which should be noted is that the scores from the post-test social skills assessment were not normally distributed about their mean. The scores which ranged from 28 to 36 formed a negatively skewed distribution with the mean at 34.2, while the median was 35 and the mode was 36. The standard deviation was 2.2. Most of the variability in the post-test social skills scores was below the mean.

#### The Relationship Between Post-Test PH Scores and Social Skills Training

The first hypothesis was:

H1: Experimental condition participation will be positively related to post-test PH scores.

The first multiple regression analysis performed to investigate hypothesis one yielded results that did not support the prediction that participation in the social skills training of the experimental condition would be significantly related to post-test PH scores (  $F(1, 20) = .24, p > .05$  ). Further hierarchical multiple regression analysis controlling for pre-test PH scores again did not result in achieving significance for the contribution of experimental condition participation to the regression equation (  $F(2, 19) = .12, p > .05$  ). Experimental condition participation accounted for only .3% of the

Table 3  
Correlation Coefficients Between Research Variables

Variable	Pre-Test Piers-Harris	Post-Test Piers-Harris	Pre-Test Social Skills
Post-Test Piers-Harris	.722*	---	---
Pre-Test Social Skills	.041	---	---
Post-Test Social Skills	---	-.146	.236
ITBS	.372	.228	---

\* $p < .001$

variance in post-test PH scores for all of the children. No significance was found for the contributions of age, sex, and grade in the regression equation. Table 4 presents the multiple regression statistics for hypothesis one.

In the statistical test which is analogous to an analysis of covariance (Kerlinger, 1973), no significance was found between post-test PH scores and experimental condition participation after the effects of the covariate, pre-test PH scores, were removed (  $F(1, 19) = .12, p > .05$  ).

The  $t$  test for the difference between means for correlated groups produced results which were consistent with the findings of the multiple regression analyses. The comparison of the post-test PH mean for the experimental condition (49.8) with the post-test PH mean for the control condition (50.0) found no significant difference between the two means (  $t(9) = -.047, p > .05$  ).

#### The Relationship Between Post-Test Social Skills and Social Skills Training

The second hypothesis was:

H2: Experimental condition participation will be positively related to post-test social skills scores.

The first multiple regression analysis conducted to examine the second hypothesis produced no results which support the prediction that participation in the social skills training of the experimental condition would be significantly related to post-test social skills ratings (  $F(1, 20) = .77, p > .05$  ). Further hierarchical regression

Table 4  
Multiple Regression Statistics for Hypothesis One

Variable	Cumulative	$R^2$	$F_{\text{I}} /$	df
Added	$R^2$	Increment (I)	Significance	

Multiple Regression - 1

Dependent Variable: Post PH

Condition	.012	.012	.24/.631	1,20
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Multiple Regression - 2

Dependent Variable: Post PH

Pre PH	.521	.521	21.73/.000	1,20
Condition	.524	.003	.12/.738	2,19

Multiple Regression - 3

Dependent Variable: Post PH

Pre PH	.521	.521	21.73/.000	1,20
Age	.548	.028	1.16/.296	2,19
Grade	.552	.003	.14/.713	3,18
Sex	.569	.017	.66/.427	4,17
Condition	.571	.002	.07/.789	5,16

analysis controlling for pre-test PH scores again did not result in achieving significance for the contribution of experimental condition participation to the regression equation (  $F(2, 19) = .74, p > .05$  ). Experimental condition participation accounted for only 4% of the variance in the post-test social skills ratings for all of the children. Table 5 shows the multiple regression statistics for hypothesis two.

The Mann-Whitney  $U$  test for the difference between two sample distributions produced results which were consistent with the findings of the multiple regression analyses. The comparison of the distribution of post-test social skills scores for the experimental condition with the distribution of post-test social skills scores for the control condition found no significant difference between the two distributions (  $U(11, 11) = 57.5, p > .05$  ).

The Relationship Between Post-Test PH Scores  
and Combined Post-Test Social Skills,  
Social Skills Training, and  
Academic Ability

The third hypothesis was:

H3: Post-test PH scores will be positively related to post-test observer ratings in social skills and experimental condition participation when composite scores on the ITBS are held constant.

Hierarchical multiple regression analysis performed to investigate the third hypothesis yielded results that did not support the prediction that post-test PH scores would be significantly dependent upon

Table 5  
Multiple Regression Statistics for Hypothesis Two

Variable	Cumulative	$R^2$	$F_I/$	<u>df</u>
Added	$R^2$	Increment ( <u>I</u> )	Significance	

Multiple Regression - 1

Dependent Variable: Post Social Skills

Condition	.037	.037	.77/.392	1,20
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Multiple Regression - 2

Dependent Variable: Post Social Skills

Pre PH	.0004	.0004	.008/.928	1,20
Condition	.0381	.0377	.744/.399	2,19



experimental condition social skills training, post-test social skills scores, and composite ITBS scores. Neither post-test social skills scores (  $F(4, 17) = 1.19, p > .05$  ), experimental condition participation (  $F(4, 17) = .71, p > .05$  ), nor ITBS scores (  $F(4, 17) = .33, p > .05$  ) were found to make a significant contribution to the regression equation, even when controlling for pre-test PH scores.

As a sideline investigation, a further multiple regression analysis was conducted to examine the analogous relationship of post-test social skills scores with experimental condition social skills training and ITBS scores. Again, no significant relationship was found (  $F(2, 19) = 1.4, p > .05$  ).

Table 6 presents the multiple regression statistics for hypothesis three.

Table 6  
Multiple Regression Statistics for Hypothesis Three

Variable	Cumulative	$R^2$	$F_I/$	df
Added	$R^2$	Increment (I)	Significance	
Multiple Regression - 1				
Dependent Variable: Post PH				
Pre PH	.52076	.52076	21.73/.000	1,20
ITBS	.52266	.00190	.08/.786	2,19
Post Social				
Skills	.55574	.03308	1.34/.262	3,18
Condition	.55576	.00002	.0007/.979	4,17

Multiple Regression - 2				
Dependent Variable: Post Social Skills				
ITBS	.07127	.07127	1.53/.230	1,20
Condition	.12861	.05734	1.25/.277	2,19

## CHAPTER FOUR

### DISCUSSION

This chapter contains a discussion of the results of the study which were presented in Chapter Three. The discussion will include three sections: (a) discussion of the hypotheses; (b) recommendations for future research; and (c) conclusions.

#### Discussion of the Hypotheses

The present study attempted to examine the effects of a social skills training program composed of coaching and behavior rehearsal upon the self-concepts of low self-concept children. It was predicted that training in specific social skills would be positively related to subsequent self evaluations of self-concept. As a corollary to this primary prediction, it was also predicted that training in social skills would be positively related to subsequent social skills scores. It was further predicted that a relationship would be found between self-concept and social skills, academic ability and involvement in the experimental social skills training program. The results of this study, however, did not substantiate any of these predictions. What explanations may be offered to account for these negative results?

It should be stated to begin with that the lack of positive results in the present study should not be taken as a disproof of a relationship between self-concept and social skills. Earlier studies reviewed in Chapter One have indeed given a good indication that such a

relationship does exist (e.g., Fryrear et al., 1977). The present study, however, exhibited certain weaknesses that may account for its inability to support the notion of a relationship between self-concept and social skills.

Although the primary hypothesis of the study was that the self-concepts of low self-concept children would be enhanced by social skills training, this hypothesis was predicated upon the second hypothesis which was based upon the expectation that the children who received social skills training would actually improve in social skills. Since the data analysis for the second hypothesis failed to demonstrate any actual improvement in social skills for the experimental condition, it is not surprising that the first hypothesis was also not substantiated by the data. In order to obtain significant results, both hypotheses required that measureable improvement in social skills be obtained for the experimental condition. Since the experimental condition did not actually improve in social skills, then it is consistent with the prediction of the first hypothesis that the experimental condition also did not improve in self-concept as compared to the control condition. Improvement in self-concept was dependent upon improvement in social skills. It would appear then that the critical question at this juncture is: Why did not the experimental condition make observable gains in social skills?

Certain methodological shortcomings in the training procedure and measurement of social skills for this study may be identified. It is possible that one or more of them account for the lack of

observable improvement in social skills among the experimental condition. Some of the problems in the study were undoubtedly related to the observational procedures used to measure social skills. Baseline measures of social skills were collected in an unnatural setting and in the presence of an experimenter and observers who were previously unfamiliar to the children. This unfamiliarity may have caused the children to behave in a more reserved and atypical manner, and thus to not reveal their typical social behaviors. By the time of the post-test observations, the children were much more familiar with the setting, the procedure and the experimenter, and thus may have acted more naturally and revealed more typical social behaviors than in the pre-test. If the children had been exposed to the setting, the procedure, and the experimenter for a while before baseline measures were taken, or if the observations had been made in a more natural setting like the classroom or the playground as in O'Connor (1969), perhaps more accurate measures of pre-test and post-test social skills would have been obtained.

Another problem related to the observational procedure is likely to have been the inadequacy of the social skills measure itself as indicated by the statistical analyses. No correlation was found between the pre-test social skills scores and the post-test social skills scores. Since no relationship was found between post-test social skills scores and condition participation, the lack of relationship between pre-test and post-test social skills scores cannot be attributed to differences in condition treatment. It would

appear, therefore, that the social skills measure lacked test-retest reliability.

The social skills measure also appeared inadequate to detect subtle changes in social skills. This was indicated, for instance, by the distribution of post-test social skills scores which was negatively skewed with most of the variability occurring in a few scores which trailed out to the negative end of the distribution. It would appear that the social skills measure did not adequately discriminate between different levels of social skills ability. The behavioral codes were probably too broadly defined to be sensitive to differences in specific social skills. It is plausible that children did indeed make some specific changes in social skills, but that they were undetected due to the imprecision of the behavioral measure.

Although there may have been changes in social skills that went undetected, it is quite likely that the social skills training procedure itself failed to accomplish its intended purpose. One factor which may have contributed to the apparent ineffectiveness of the training procedure was the possible insufficient specificity and concreteness of the social skills coached. The social skills training procedure utilized by La Greca and Sontogrossi (1980) to produce significant gains in social skills among children used similar but more specific and more concrete social skills than the present study. Instead of the four categories of social skills used in the present study, La Greca and Santogrossi identified eight skill areas. Such specific and concrete identification of target social skills might have enabled the children

in the present study to more readily understand and apply the skills to their social behavior.

Another factor which seemed to have lessened the effectiveness of the training procedure was the unguided nature of the behavior rehearsal phase of the sessions. The experimenter observed that the experimental children verbally indicated understanding of the social skill concepts during the coaching phase by reciting the concepts and generating their own examples of the concepts. However, during the rehearsal phase immediately following coaching, the children did not seem to be able to successfully implement the discussed skills in their behavior. Perhaps the children would have been more successful if they had received feedback during behavior rehearsal. For example, the experimenter might have remained somewhat involved with the children during the rehearsal phase to provide guidance and immediate feedback for the children as they attempted to translate the skill concepts into behavior. Such experimenter involvement would have provided reinforcement for the children's attempts to implement the social skill concepts. Another possibility might have been the use of videotaped feedback as was utilized in the successful La Greca and Santogrossi (1980) study. In that study, the children's behavior was videotaped during behavior rehearsal and then played back to the children to provide feedback on their attempts to apply the coached skills. Some form of feedback during behavior rehearsal in the present study might have significantly enhanced the children's learning and implementation of the social skills.

In addition to the possible shortcomings in the observational procedure and the training procedure, certain other factors may account for the lack of significant results. One of these factors was the basis for selection of children to participate in the study. The participants were identified solely on the basis of low self-concept. The study, however, was concerned with the relationship between self-concept and social skills. It might have been more appropriate for the participants to have been identified on the basis of both low self-concept as well as low social skills. As the results indicated, no correlation between pre-test self-concept scores and pre-test social skills scores was found for the children included in the study. If the children had been identified on the basis of the two criteria, the children whose low self-concepts were related more to inadequate social skills would have been targeted for the help with social skills. Children whose low self-concepts were related more to other influences and who, therefore, were less likely to benefit from social skills training would not have been included. Such an approach would be more consistent with the notion that self-concept development is influenced by many factors (Fitts, 1965; Fryrear, et al., 1977), and is not simply a function of social skill adequacy.

Another possible shortcoming of the present study was the amount of actual time that the children participated in social skills training activities. The four-week duration of the social skills procedure was commensurate with other social skills training studies as was the frequency of sessions. However, in several studies which reported



significant increases in pro-social behavior (Fryrear et al., 1977; Ladd, 1981; La Greca & Santogrossi, 1980), the children spent at least three times as much actual time engaged in social skills training activities as the children in the present study (360 to 400 minutes in other studies versus 120 minutes in the present study). If the social skills training procedure of the present study had provided more actual training time, perhaps it would have been successful in producing gains in social skills.

In addition, if the training procedure had extended over a longer period of time than just four weeks, then perhaps there would have been more time for the children to learn the social skills, to implement them in their behavioral repertoire, and to allow the social changes to affect how they feel about themselves. Self-concept is generally regarded as a relatively stable attitude that may not respond to a single event or to an intervention of short duration (Piers, 1969). Although some research (e.g., Fryrear et al., 1977) has demonstrated change in self-concept as a result of just a few weeks of intervention, an intervention would no doubt be more likely to succeed if it extended over a period of months rather than weeks.

It is apparent then that the present study evidenced certain methodological difficulties in both the measurement of social skills and the training of social skills. At least in part, these shortcomings may account for the experimental condition's lack of improvement in social skills. Likewise, they offer an explanation for why none of the research hypotheses were substantiated, since each hypothesis was

dependent upon demonstration of the experimental condition's improvement in social skills.

In addition to the above issues, certain findings generated by comparisons of the PH pre-test and PH post-test warrant discussion as well. It may be noted from Table 2 that for the experimental and control children combined there was a mean increase of 9.5 points between the pre-test and the post-test of the PH. This increase may be interpreted as insignificant on the basis of the following explanations. A certain amount of increase in the retest mean was expected on the basis of Piers' and Harris' (1964) findings that group means on retests have consistently changed in the direction of higher scores even when no treatments or manipulations were performed. While acknowledging the difficulty of interpreting such findings, the increasing familiarity with the items was suggested as a possible explanation for the change. In the present study, another possible explanation may be found in the principle of regression toward the mean on retests. The children were identified for participation on the basis of low pre-test PH scores which were all at or below the mean. As a result, upon retest their scores would all tend to increase as they regressed toward the mean, which was a higher score than any of the individual scores.

A third explanation for regarding the increase in the post-test PH mean as insignificant is found in a comparison of the means for the participating children with the means of a small group of children who did not participate in the study. There were five children who scored below the normative sample mean on the PH pre-test but who did not

participate in either the experimental condition or the control condition because of not having parental permission. The PH pre-test mean for these five children was 36 while their PH post-test mean was 45.2, an increase of 9.2 points. Their increase was comparable to the pre-test to post-test change in means for the children who did participate in the study (+9.5 points). It would appear then that the difference in pre-test and post-test means of the PH was insignificant to the results of the study.

Another finding observed in the comparison of the PH pre-test scores with the PH post-test scores was the highly significant correlation between them ( $r(20) = .722, p > .001$ ). In fact, the PH pre-test scores were also found to be the single best predictor of the PH post-test scores in multiple regression analysis ( $F(1, 20) = 21.73, p > .001$ ). These findings are consistent with the test-retest reliability coefficients (.72 for third grade children, .71 for sixth grade children) reported by Piers and Harris (1964). The findings of this study thus confirm the reliability of the PH and endorse its usefulness for self-concept research with third through sixth grade children. If a measureable increase in social skills had been obtained in the present study and if a relationship indeed exists between self-concept and social skills, then the PH apparently would have been capable of measuring a corresponding change in self-concept.

#### Recommendations for Further Research

This study raises several suggestions for further research. They include both methodological issues and specific areas which may warrant

additional study.

The methodological difficulties in the present study should be addressed in future research studies of a similar nature. There is a need for continued development toward more accurate measures of social skills. In order to better measure the children's typical social behaviors, the observations should be made in as familiar and natural a social setting as possible while maintaining the experimental controls necessary for reliable measurement. The observational recording devices should also utilize more precise and specific behavioral codes to increase the capacity to measure subtle behavioral changes. For example, there could be a separate behavioral code for each of the four primary social skill concepts (participation, cooperation, communication, and validation-support) with a list of specific behaviors which would indicate and counterindicate those social skills (e.g., taking turns and sharing materials would indicate cooperation, while hogging the materials would counterindicate cooperation). In addition, social skills measures must also be refined to increase their reliability.

The social skills coaching procedure should be improved by utilizing more specific and concrete social skills concepts in order to facilitate the children's understanding and implementation of the skills. Behavior rehearsal would be enhanced by incorporating a feedback system to facilitate the children's learning. Also, more actual training time should be included.

Furthermore, future research may be facilitated by incorporating more than one criterion for identifying children to participate in the

study. Such a procedure would increase the correspondence between the specific needs of the children and the intervention employed.

### Conclusions

This study found no data to suggest that the sample of low self-concept children's post-test self-concept scores were related to participation in experimental social skills training. In addition, the data did not substantiate that post-test social skills scores were related to participation in social skills training, nor that post-test self-concept scores were related to the combined effects of post-test social skills scores, academic abilities scores, or participation in social skills training.

No general statements about the relationship between self-concept and social skills may be offered on the basis of the data in this study. The support of all three hypotheses was dependent upon the demonstration of actual social skills improvement in the experimental condition. However, no such improvement was indicated. Therefore, further understanding of the self-concept - social skills relationship must await future successful social skills training research.

To account for the experimental condition's lack of gains in social skills, certain methodological shortcomings were identified. The social skills observation procedure was conducted in an unnatural and unfamiliar setting, and thus did not yield a measure of typical social behavior. Also, the social skills measure itself was found to be unreliable in test-retest, as well as inadequate for detecting subtle changes in behavior due to the imprecision of the behavioral codes.

In the training procedure, the social skills may have been presented with insufficient specificity and concreteness. The behavior rehearsal phase might have been more effective had a procedure of feedback for the children been included. There may have also been insufficient time allotted for participation in social skills training. One other possible detracting factor may have been the use of only one criterion (low self-concept) to identify children for participation in the study. One or more of these factors may have contributed to the lack of social skills improvement.

The results of this study did, however, confirm the test-retest reliability of the PH as a measure of children's self-concepts.

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## APPENDIX

Parent Letter

Observation Coding Form

## Parent Letter

Dear Parents:

Columbia Christian School is participating in a research study in collaboration with the Psychology Department of Western Conservative Baptist Seminary. The study is designed to provide some important information about the social-emotional development of children which will help make our services to them even more effective. We believe that the methods to be used will improve the educational experiences of many children.

As part of this research, your child may participate in a special small group during the next four weeks. The children in the small groups will receive some instruction about basic social skills, and then practice these important skills with a peer. We believe that participation in this study will be a positive experience for all of the children involved. Your child's participation in this special program will not become part of any school record, and will be used for research purposes only.

If you have any questions about this program, please feel free to contact the school or the researcher, Wayne Yocky, at 620-1610.

We would like to have your permission in order for your child to participate in a small group. Please indicate your preference on the attached form, and return the form to the school by Friday, April 29.

Thank you for your cooperation.

I have read the information about the research study at Columbia  
Christian School, and I have decided:

\_\_\_ Yes, my child may participate.

\_\_\_ No, my child may not participate.

Child's Name: \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

## Observation Coding Form

Date: \_\_\_\_\_

Child: \_\_\_\_\_

Child: \_\_\_\_\_

<u>Observation</u>	<u>Task</u>		<u>Social</u>		<u>Task</u>		<u>Social</u>	
	<u>Participation</u>		<u>Orientation</u>		<u>Participation</u>		<u>Orientation</u>	
1	Y	N	S	UnS	Y	N	S	UnS
2	Y	N	S	UnS	Y	N	S	UnS
3	Y	N	S	UnS	Y	N	S	UnS
4	Y	N	S	UnS	Y	N	S	UnS
5	Y	N	S	UnS	Y	N	S	UnS
6	Y	N	S	UnS	Y	N	S	UnS
7	Y	N	S	UnS	Y	N	S	UnS
8	Y	N	S	UnS	Y	N	S	UnS
9	Y	N	S	UnS	Y	N	S	UnS
10	Y	N	S	UnS	Y	N	S	UnS
11	Y	N	S	UnS	Y	N	S	UnS
12	Y	N	S	UnS	Y	N	S	UnS
13	Y	N	S	UnS	Y	N	S	UnS
14	Y	N	S	UnS	Y	N	S	UnS
15	Y	N	S	UnS	Y	N	S	UnS
16	Y	N	S	UnS	Y	N	S	UnS
17	Y	N	S	UnS	Y	N	S	UnS
18	Y	N	S	UnS	Y	N	S	UnS
Score: _____		Score: _____		Score: _____		Score: _____		
Total Score: _____				Total Score: _____				