The Ability of Teachers of Preschool Handicapped to Use Observational Behavioral Assessment Techniques in Assessing Social Skills

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THE ABILITY OF TEACHERS OF PRESCHOOL HANDICAPPED TO USE OBSERVATIONAL BEHAVIORAL ASSESSMENT TECHNIQUES IN ASSESSING SOCIAL SKILLS

by

Stephen P. Barbus

A Dissertation
Submitted to the
Faculty of The Graduate College
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Socially competent preschool children effectively use a variety of social skills, including initiating and maintaining interactions, using others as resources, expressing affection and hostility appropriately, and competing with, leading, and following peers. Children lacking these behaviors are at greater risk of interpersonal difficulties, delayed cognitive development, poor academic performance, school maladjustment, and mental health problems. Handicapped children are deficient in a variety of social skills. Before special education can provide effective intervention in requisite social skills it must establish accurate and reliable assessment techniques.

One such technique, behavioral assessment of social skills, uses several methods. Of these, observation in the natural setting is the most functional and socially valid. This technique enables teachers to act as participant observers, provides assessment information free of reactive change in student behavior, and is directly applicable to intervention and repeated measurement.
This investigation measured the degree of accuracy and consistency with which teachers of handicapped preschoolers could apply observational techniques in assessing social skills in the school setting. This was accomplished by: (a) identifying and describing preschool social competence in observable terms, (b) developing a videotape displaying examples of the skills inherent in this competence, (c) organizing a response protocol to record these skills, and (d) permitting teachers to view examples and record their observations. Proportions of agreement were calculated measuring the rate of accuracy, interobserver agreement, and the consistency with which individual teachers recorded social skills across repeated observations.

Results indicated the ability of teachers of handicapped preschoolers to consistently and accurately record observed social skill behavior in the preschool setting. Agreement proportions exceeding 80 percent were attained on all measures. The results support continued efforts to validate the observational technique used in this study, preparatory to linking assessment with a specifically designed intervention program. Additionally, the results imply a potential contribution to understanding the handicapped preschooler's social skill needs in relation to particular handicapping conditions and developmental levels.
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The ability of teachers of preschool handicapped to use observational behavioral assessment techniques in assessing social skills

Barbus, Stephen Patrick, Ed.D.

Western Michigan University, 1988

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CHAPTER I
INTRODUCTION

The results of a decade of research suggest that children deficient in social skills are at an increased risk for interpersonal difficulties later in life (Ladd & Mize, 1983). It has been demonstrated that children lacking social competence often experience poor academic performance (Cartledge & Milburn, 1978), delayed cognitive development (Strain, Cooke, & Apolloni, 1976), higher incidence of school maladjustment (Gronlund & Anderson, 1963), adult mental health problems (Cowen, Pederson, Babigan, Izzo, & Trost, 1973), and produce a disruptive effect on the family (Wahler, 1976). Handicapped children, as a group, have been shown to be deficient in a variety of social skills. As an immediate result, these children are poorly accepted by peers and typically experience low rates of interaction with nonhandicapped children (Bryan, 1976; Gottman, 1976; Gresham, 1981b; Morgan, 1977).

"Given the importance of social skills in gaining acceptance into the peer group and for effective social interchanges, it is important to establish techniques which will . . . isolate the specific behaviors which may
contribute to poor peer acceptance" (Gresham, 1981b, p. 143). One such technique, behavioral assessment of social skills, uses a variety of methods, including direct observation in the natural setting (a procedure that provides "maximal opportunity for feedback as to the effectiveness of one's interventions and social validity" (Cone & Hawkins, 1977, p. 211). Presumably, through direct observation, teachers acting as participant observers in the classroom setting, can provide assessment information free of the reactive changes in the student's behavior often reported in behavioral observation (Arkowitz, 1985). The issue remains as to whether teachers are able to accurately assess social skills of preschool children using behavioral assessment techniques.

This investigation will consider the feasibility of using special education teachers of handicapped preschoolers as participant-observers in the assessment of preschool children's social skills. Three questions must be considered: (1) What are social skills?, (2) how do children develop social skills?, and (3) how can they be measured?

The volume of discussion and research involving the concept of social competence and its component social skills (Foster & Ritchey, 1979) has produced numerous definitions and conceptualizations of the construct. Odom and McConnell (1985) have divided these attempts into
three broad categories: The All-Inclusive Approach; the Adaptive Behavior approach; and the Interpersonal Approach. The majority of definitions of social competence from the past 15 years fall under one of three categories.

The **All-Inclusive Approach**: Defines social competence (in the work completed during the 1970s) as separate from previous definitions that were largely stated in terms of general intelligence (Anderson & Messick, 1974; Zigler & Trickett, 1978).

The **Adaptive Behavioral Approach**: Considers social competence and adaptive behavior to be one and the same (Doll, 1953). Within this definition, social competence is composed of those skills that allow individuals to function independently in their environment.

The **Performance Approach**: Social competence stresses the interpersonal nature (related to participation in and knowledge of social interchanges) of social competence.

Despite these fundamental conceptual differences, specific social skills, using the most widely accepted criteria, a person can be defined as socially proficient when the response is most effective in resolving the immediate situational problem while reducing to a minimum the possibility of future problems (Goldfried & D'Zurilla, 1969).
Consistent with several recent Performance Approach definitions in the literature (Gresham, 1981a; Hops, 1983; McFall, 1982; Odom & McConnell, 1985) social competence is described as those social skills that constitute "the interpersonal social performance of a child with other children or adults [the effectiveness of which is] judged by significant social agents in the child's environment . . . as bipolar, as acceptable or unacceptable" (Odom & McConnell, p. 9). Socially competent preschoolers commonly display appropriate and effective use of a variety of social skills. These include: (a) Getting and maintaining the attention of adults in socially accepted ways, (b) using adults as resources, (c) expressing hostility and affection to adults and peers, (d) leading and following peers, (e) competing with peers, (f) showing pride in one's accomplishments, and (g) engaging in adult role-play (White & Watts, 1973).

The current lack of agreement concerning a unified theory of social skills is rooted in theoretical differences concerning personality development. The most useful and widely accepted theoretical basis for teaching social skills to children can be found within the social learning theory initially developed by Rotter in the 1950s and 1960s and subsequently expanded by Bandura (Bandura, 1977; Bandura & Walters, 1963). Learning social skills, according to this theory, is the result of an
interaction between the child and such environmental forces as the child's parents, peers and others (Gresham, 1982a). Social learning theorists attribute behavior change to sudden alterations in social training or other related environmental variables. Social learning theory emphasizes the variation in social-training experiences between children to explain interindividual differences and the continuity found intrindividually (Bandura & Walters, 1963).

Consideration of child's age and level of development contributes to the development of social competence (Eisenberg & Harris, 1984). This has led to a "developmental" perspective of the acquisition of social competence. This perspective attempts to account for those changes in the behavior of individuals at particular ages and developmental levels consistent with social learning theory. While, as Bandura and Walters (1963) felt, changes in behavior (development of social skills) tend only to occur as a result of "abrupt alterations in social training . . . relevant biological . . . or environmental variables" (p. 25), recent discussions of social competence and the training of its requisite skills have attempted to identify those variables (Eisenberg & Harris, 1984; Swetnam, Peterson, & Clark, 1982).

Behavioral assessment involves the identification and measurement of important responses and the environmental
and personal variables that control those responses (Nelson & Hayes, 1985). In this approach the assessment situation is as important as the device and the response is considered a sample from that specific situation (Goldfried & Kent, 1972). Behavioral assessment focuses on what the person does, not what the person has (Mischel, 1968). Its quality is reflected in the assessment's accuracy and functional utility (Nelson & Hayes, 1985). Nelson and Hayes (1985) believed that goals for any behavioral assessment should include: (a) an identification of the target behaviors and appropriate methods of measurement; (b) a determination of the controlling variables—environmental and organismic; (c) the selection of an intervention strategy with a high probability of success; and (d) an evaluation of the effectiveness of the intervention.

Specific methods of applying behavioral assessment to the measurement of social skills, including the use of direct observational procedures, are widely discussed and described in recent literature (Asher & Hymel, 1981; Foster & Ritchey, 1979; Gresham, 1981b; Gresham & Elliott, 1984; Hops & Greenwood, 1984; Kazdin, 1985). Discussions concerning the issues related to current assessment practices are equally numerous (Bellack, 1979a; Curran, 1979; Foster & Cone, 1986; Foster & Ritchey, 1979; Gresham & Elliott, 1984; Hops, 1983; Sprafkin, 1980). Bellack
(1979a) believed the more general issues concerning social skills assessment revolved around one central issue: What should be assessed? Interpersonal functioning (the researcher's ability to separate social anxiety from social skill), what behavior to target and how to measure, and the inclusion of cognitive responses and social perception remain unresolved issues in the development of valid social skill assessment procedures.

Behavioral assessment closely links assessment and intervention (Sprafkin, 1980). Hops (1981) described the behavioral assessment approach to assessment of social skills as providing the teacher or practitioner with a most significant advantage: A direct relationship between the assessment and the treatment designed to remediate the problem. For the teacher, behavioral assessment provides an opportunity to measure intervention's impact through the observation of the specific behaviors targeted by the intervention. Fundamental to understanding the assessment of social skills in this context are discussions concerning the nature of behavioral assessment and its use in the assessment of social skills, the issues and methods involved, and the use of teachers as participant observers.

Use of the teacher as participant observer in the assessment of social skills attempts to alleviate the effect of obvious observers on the behavior of those being
observed. Using participant observers is an attempt to reduce the reactivity of the assessment technique and to provide for a natural feedback system in which the intervention can be continuously modified to meet developing needs (Sprafkin, 1980). Advantages in cost, convenience, and reduction in the reactive changes in behavior caused by the addition of independent observers to the environment, make participant observers the preferred choice (Hay, Nelson, & Hay, 1977). Researchers caution, however, that temporary changes in student behaviors may result from changes in teacher behaviors during observation periods (Hay et al., 1977; Hay, Nelson, & Hay, 1980).

Purpose

The purpose of this research was to measure the degree of accuracy and consistency with which teachers of preprimary impaired children can use behavioral assessment techniques to identify predetermined examples of social skills while directly observing children’s behavior in a naturalistic setting.

Rationale

Handicapped children need to begin social skills training as early in their special education program as possible to facilitate placement in the least restrictive
environment and realize its assumed benefits (Gresham, 1982b), to minimize concurrent problems with the handicapped child's personal and academic development (Cartledge & Milburn, 1978; Strain et al., 1976), and to avoid long-term adjustment problems (Cowen et al., 1973; Gronlund & Anderson, 1963; Wahler, 1976).

Intervention designed to provide children with social skills requires specific behavioral definitions allied with accurate and reliable assessment techniques. Naturalistic observations, "observing performance without intervening or structuring the situation" (Kazdin, 1985, p. 110), are sensitive to intervention techniques and conducive to repeated measurement. They permit assessment of the antecedents and consequences of particular behaviors and assessment of operationally defined behaviors rather than globally-defined constructs (Gresham, 1981a).

An assessment procedure is impractical and intrusive if it requires highly trained specialists or provides more data than are necessary to make decisions concerning intervention. "A useful instrument must provide meaningful data for decision making at the level of staff expertise in the natural setting" (Hops & Greenwood, 1984, p. 357). The use of participant observers (teachers) for the assessment of social skills is preferable to independent observers. Such use reduces reactive changes
in the student's behavior generally caused by the addition of independent observers, increases the likelihood of the participant observer's presence when the behavior of interest occurs, and reduces cost when compared to employing independent observers (Hay et al., 1977, 1980).

Any system designed for use by the teacher as a participant observer must be easily learned, and provide sufficient data for selection of appropriate intervention and evaluate the effect of the intervention (Hops, 1981). Several such systems are currently available (Greenwood, Todd, Walker, & Hops, 1978; Hops et al., 1978; Walker et al., 1978). These systems specifically target such resulting conditions as social withdrawal and negative aggression (possible indicators of specific social skill deficiencies), or they address the social skill assessment of children beyond the preprimary age. A need exists for an observational and assessment/intervention technique for preschoolers that uses the teacher and addresses a broader definition of social competence and its component social skills.

The urgent call for social skills intervention with handicapped children is well documented (Greenspan, 1981b; Gresham, 1981b, 1982a, 1982b; Gurainick & Groom, 1985; Odom & McConnell, 1985; Odom & Strain, 1984; Stowitschek & Powell, 1981). Conceptually, the effectiveness of intervention is a direct product of the design and
implementation of the assessment procedure (Arkowitz, 1985; Bellack, 1979b; Curran, 1979; Eisler & Frederikson, 1980; Gresham & Elliott, 1984). Developing an assessment/intervention strategy specifically for use by teachers of the handicapped preschool population is a project requiring several progressive phases: (a) Research confirming the consistency with which these teachers can effectively employ such an assessment technique, (b) revision of the instrument and training procedure to reflect needed changes followed by validation in the actual setting, and (c) linking of assessment outcomes with a corresponding social skills training curriculum.

Prior to any validation efforts or eventual implementation, it is necessary to address the initial question: Can teachers of preschool handicapped consistently and accurately employ the assessment technique? The present study represents an effort to complete the initial phase of such a project.
CHAPTER II

REVIEW OF THE LITERATURE

This chapter is designed to provide a conceptual framework with which to understand the nature of social skills and the theoretical foundations inherent to research in the area of social skills assessment and intervention. The discussion will provide a rationale for the necessity and utility of teacher-directed behavioral assessment of the social skills of handicapped children at the preschool level. These objectives will be addressed by reviewing current information regarding: (a) A definition of social skills, (b) the development of social skills in children, and (c) behavioral assessment of social skills.

Previous Studies

Before considering the accuracy of an assessment procedure, it is crucial to define what is being measured. Theorists have experienced difficulty defining social skills adequately, though more recently the parameters have specified (Arkowitz, 1985). This effort to develop a working definition for the term "social skills" will be presented in the following order:

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1. The origin of the concept of social skills from the social-learning model.

2. A definition of social skills.

3. Definitional categories of the construct.


The Origin of Social Skills

In the late 1940s and early 1950s explanations of the complexity of human behavior and personality development appeared divided between two distinct groups—complex psychoanalytic theories offering the interpersonal conflict model, and an oversimplified version of human behavior based on animal studies of reinforcement and precise identification of stimuli. Rotter (1954) developed perhaps the first comprehensive theory of social learning theory. Rotter's goal was to provide predictive utility within this concept through tight descriptive language and operational definitions specifying measurement techniques for the concepts. Predicting behavior, within Rotter's social learning theory, required consideration of four variables:

1. The potential for any behavior to occur, based on an individual's search for specific reinforcement.

2. An expectancy held by the individual that a particular reinforcer would occur, given a specific behavior.
3. A measure of preference the individual has between possible reinforcements.

4. A vital psychological component that determines the relevance of a situation affecting the other variables (Phares, 1984).

Rotter's utilization of both motivational and cognitive variables served as a basis for later explanations of human behavior offered by Bandura during the 1960s and 1970s. Bandura (1977), rather than searching for additional predictive ability, focused on the process in which individuals acquire or develop their behavioral repertoire. Bandura concluded:

1. Social learning results from the "reciprocal nature" of individual and environmental variables interacting with behavior. Phares (1984) explained, "We are influenced, but we also exert influence" (p. 340).

2. Much of the human learning of social behavior is the result of modeling, observation, and imitation.

3. While learning may take place in the absence of reinforcement, it is vital in the determination of when and where a behavior will be used.

4. Individuals do not automatically learn behaviors through observation. Acquisition of an observed behavior may be determined by several variables including the person's age, competence, and motivation.
5. Observational learning is not limited to motoric acts. Such social behaviors as aggression and emotional responses are also learned through observation (Bandura & Walters, 1963; Gresham, 1982b; Phares, 1984).

Bandura describes behavior change as a product of reinforcement continually influenced by cognition and self-regulatory processes. Mischel (1968) expanded on Bandura's work by offering a variety of behavioral characteristics in individuals as evidence of "certain person variables." To Mischel:

1. The variance of abilities in individuals gives rise to unique repertoires of competence that influence our choice of action.

2. Individual differences in perception of environmental stimulation provide people with different messages.

3. Individuals vary as to their expectation of particular outcomes resulting from certain behaviors.

4. The value placed on particular outcomes varies from person to person.

5. People regulate their behavior through self-imposed standards.

Eisler and Frederikson (1980) clarified social learning theory's function in the conceptualization of social skills by stating:

Social behavior is conceptualized on the basis of reciprocity and mutual influence. Not only
is the individual influenced by responses from others; the individual also helps create his or her social environment by influencing others to modify their behavior. The ability with which an individual can create a favorable social climate in which others respond according to his or her expectations and desires is a measure of the individual's social skills. (p. 8)

The theories reviewed highlight the major principles to be used in the description of the social behavior of preschool children. These include:

1. A child's social behavior represents a response to previous experience.

2. A child's behavioral responses are modified and maintained through social consequences and the child's reciprocal influence on others in the social environment.

3. A child's cognitive processes such as motivations, intentions, and expectations will mediate the response choice (Eisler & Frederikson, 1980).

Toward a Definition of Social Skills

Consensus regarding the definition of social skills has been elusive. Most researchers agree that they can recognize a social skill, or its absence, arriving at a functional definition is more difficult (Arkowitz, 1985; Curran, 1979; Eisler & Frederikson, 1980). In an attempt to arrive at an operational definition, the discussion will focus on the terminology, a review of recent efforts to define social skills, and the current behavioral interpretation of social skills.
**Terminology**

Much of the confusion and disagreement, created in attempts to define what appears to be a rather simple concept, stems from varied terminology. Social adequacy, social competence, social skill deficit, and prosocial behavior are all terms that have appeared in various descriptions of largely the same phenomenon, behavior necessary to equip individuals to engage in positive social interaction (Factor & Schilmoeller, 1983). In his search for an acceptable term for the description of this phenomenon, Curran (1979) offered the plural "skills" as most representative of "the response classes and the differences in topologies subsumed under the term" (p. 57). "Skills" appeared a more neutral term, one that may be regarded as a megaconstruct or organizing principle within which a variety of possible response variables exist.

As an organizing principle, the term "social competence" likewise assumes an important role in the definition of social skills. Social competence may be viewed as a broader construct that includes both social skills and the adaptive behaviors necessary to the development of a child (Foster & Ritchey, 1979; Gresham, 1982b). Gresham (1982b) defined behavior skills in terms of a child's self-sufficiency and independent functioning, whereas social skills connoted interpersonal functioning.
and social acceptance. Much of the earlier research in children's behavioral difficulties had focused on the negative (deficits and excesses) aspects of their behavior. Social competence includes both building the positive and removing the negative aspects of social behavior (Gresham, 1981a).

**Definitional Categories**

Past efforts at defining social skills have been organized by Odom and McConnell (1985) into three general categories: All-Inclusive, Adaptive Behavioral, and Performance.

All-Inclusive definitions of social skills were devised to provide outcome measures for early intervention efforts that would rely on more than standardized test scores of intelligence, such as physical health and academic achievement (Anderson & Messick, 1974; Zigler & Trickett, 1978).

Adaptive behavior, as a measure of social competence, assessed an individual's ability successfully to function in his environment (Doll, 1953). Adaptive behavior and social skills are inseparable concepts in this interpretation of social skills.

More recently, Performance definitions of social skills have emphasized the interpersonal nature of social
competence, with either cognitive, performance, or behavioral connotations.

1. Cognitively based interpretations of social skills (Greenspan, 1981a; Shure, 1981; Taylor, 1982) view social competence as a problem-solving skill where social effectiveness results from qualities of temperament, character, and social awareness. From a cognitive perspective, social skills represent a multi-faceted construct including interpersonal goals, motivation, role-taking abilities, and strategies within specified social situations.

2. Social skills defined by performance theorists (Hops, 1983; McFall, 1982) are measured through an individual's response compared to a set of predetermined criteria. Social competence in this view relies primarily on assessors' judgments and agreements from multiple assessment sources.

3. A behavioral interpretation of social skills (Foster & Ritchey, 1979; O'Malley, 1977; Putallaz & Gottman, 1982; Sarason, 1981) includes mutually satisfying interactions and responses that prove effective and maximize the probability of producing positive effects. It may also include the use of appropriate social skills or even social behavior that prevents physical illness or psychopathology.
Social Skills: A Behavioral Definition

The behavioral interpretation of social skills is consistent with the most widely known definition offered by Libet and Lewinsohn (1973), "the complex ability to maximize the rate of positive reinforcement and to minimize the strength of punishment from others" (p. 311). While this definition appears to operationalize the behavior by defining antecedents and consequences, Curran (1979) and others felt it failed: (a) By excluding nonsocial behaviors, (b) by assuming that we could know what is reinforcing or punishing to a particular individual, and (c) by assuming our ability to anticipate the consequences of a response, leaving too much to subjective interpretation.

Foster and Ritchey (1979) elaborated on Libet and Lewinsohn's (1973) effort, and provided a definition of social skills that has received widespread support (Conger & Keane, 1981; Gresham, 1982b; Gresham & Elliott, 1984). In their definition, social skills represent:

Those responses, which within a given situation, prove effective, or in other words maximize the probability of producing, maintaining, or enhancing positive effects for the interactor (Foster & Ritchey, 1979, p. 626).

Gresham (1982b) found this definition of social skills to be the most adequate. Within this definition:

1. Social skills result in positive outcomes that can range from increased interaction to peer acceptance.
2. Social skills are defined by specific situations.
3. Social skills are not evaluated simply by rate or frequency, but in light of stimulus conditions and the responses of the others in the same situation.
4. Social skills include important qualitative aspects, often much more important than the quantitative and this definition allows for that fact.

Definitional Issues and Assessment

The fundamental and primary concern of adequate behavioral assessment is the issue of accurate and appropriate definition: What, precisely, are we assessing (Bellack, 1979b)? The atmosphere of uncertainty which surrounds the assessment of social skills, is largely the product of disagreement about definition (Trower, 1982). In the search for precise definitional parameters needed for assessment of social skills, questions arise which become major issues:

1. What variables are to be considered?
2. Are social skills to be approached from a molecular level targeting specific response deficits or from a broader dimension, at the molar level?
3. How do we incorporate social perception and problem-solving skills in our definition?
4. Are social skills strictly functional as specific
goal achievement, or do they include a combination of these variables (Trower, 1982)?

Attempting to address these issues, Conger and Conger (1986) suggested that social skills, "may refer to manifest behaviors and/or cognitive processes; skills may be general or specific; and they may be abilities or response capabilities" (p. 527). This is consistent with Curran's (1979) conclusion that an assessor's approach to these issues may need to be determined by the nature of the assessment task.

Since definitional parameters depend largely on the assessment task, the assessor must weigh: (a) The content versus the consequences of the behaviors, (b) the situational specificity of social skills, (c) the strict adherence to overt behaviors versus the consideration of social perception and cognition, (d) the importance of single responses versus entire behavioral sequences, and (e) the nature of the response as either representing an actual social skills deficit versus some performance inhibition (Arkowitz, 1985).

Conclusion

Current definitions of social skills reflect the particular interests of those offering the definition (Bellack, 1979b). Definitions are uniquely designed specifically for individual situations and criterion
groups. Given the diverse nature of social skills, specifically designing a definition becomes a necessity in situations where, "there exists no theoretically derived nor empirically established listing of these skills" (Conger & Conger, 1986, p. 527). Despite the lack of agreement surrounding definitional specifics, this study will define the social skills of preschoolers based on current areas of agreement. To Bellack (1979b) enough agreement exists concerning the general conception of social skills to list some common elements:

1. Performance in interpersonal situations depends on a set of discrete verbal and nonverbal response components.

2. Particular parameters, which comprise adequate behavior and their configuration, vary according to the situation.

3. The various component elements which comprise adequate behavior are learned-response capabilities (i.e., skills).

4. When specific social skill deficits can be identified, they can be targeted and remediated by training. (p. 77)

Development of Social Skills in Children

Theories regarding the origins and development of social skills in children predictably vary as widely as
definitions. There currently exist a number of theories attempting to account for the phenomenon of social development in children. The goal of this discussion will be to provide an explanation of social behavioral development in children which is consistent with previous discussions of the definitions of social skills and competence. Toward this end the discussion will:

(a) Trace the theoretical foundations of social skills development from a social learning perspective, including comparisons with conflicting theory; (b) describe emerging developmental-interactionist theory of social behavioral development and its parallels with social learning theory; (c) discuss the growth of social skills in handicapped and nonhandicapped children with regard to experience and environmental factors; (d) describe the role of language acquisition in the development of social skills; and (e) explore the concept of social perception as a contributing factor in social skills acquisition.

Theoretical Foundations

Three major theories currently prevail concerning the origin of social development in children:

1. The cognitive-developmental theories of Piaget and Montessori, who view social development as parallel to all other aspects of development;

2. The psychodynamic-maturational theories from theorists such as Erickson and Freud, who describe
sequential "stages" of development within discrete age
droups; and

3. The behavioral theories of Watson, Skinner,
Bandura, and Baer who view the environment as the primary
source of social learning (Strain et al., 1976).

While each theory recognizes the role and importance
of social development to the effective total development
of a child, they differ in explanations of how behavior is
acquired or changed. Rather than elaborate on each,
theoretical comparisons will be made in terms of how these
theories relate to the prevailing behavioral theory in
this study.

The Social Learning Perspective

Social learning theory traces its foundations to
behavioral theory's emphasis on the environmental
influences on learning. From those learning theorists
with behavioral roots, a subset of social learning
theorists has evolved. Rushton (1982) felt important
differences exist among these social learning theorists.
The differences can best be observed within three issues:
(1) The most important processes of learning, (2) what
they conceptualize learning products to be, and (3) the
importance assigned to genetic factors. Seen as a
continuum, the theories lie between two theoretical
extremes, with Skinner's (1971) radical behaviorism (human
learning being entirely a product of operant conditioning) at one end, and the cognitively mediated learning of Mischel and Mischel (1976) at the other. Between these divergent extremes, we can place the hypotheses of Eysenck (1977), i.e., Pavlovian conditioning largely determined through a genetic predisposition to be "conditionable," Aronfreed's (1976) description of "schemata" as notions of reality that control behavior, and Bandura's (1977) social learning theory that emphasizes the importance of observation of others' behavior. Despite the variations among social learning theorists, two factors remain constant: The strict focus on observable behavior and the laws governing the acquisition, maintenance, and modification of these observable behaviors (Rushton, 1982).

From these theoretical perspectives, social learning theory has evolved, with the unique view of social behavior as being amenable to change—a perspective which allows social behavior to be incorporated into an educational model. Two developments make this educational application possible. First is the conceptualization of social behavior acquisition according to principles of learning (Bandura, 1977). Observable definitions of these behaviors permit reliable measurement, and as such, social behavior can be approached as a skill for which a systematic curriculum may be developed. Second, an
individual's behavioral repertoire is acknowledged to be no longer exclusively a product of the environment (Rathjen, 1980). Recent interactionist perspectives describe social learning as reciprocal in nature, between environmental variables and the unique variables each individual contributes to the environment. The effectiveness of specific social skills, in this perspective, is dependent on situational factors and the unique personal characteristics each individual brings to that situation.

**Interactional Components**

The origins of individual differences in social behavior have recently been explored in terms of interaction. Rather than a passive acquisition of behaviors, the accumulation of a social behavioral repertoire "result(s) from the interaction of persons and situations, rather than either factor alone" (Bowers, 1973 cited in Bandura, 1977, p. 59). This interaction is a bidirectional phenomenon where personal and environmental influences yield a behavior that then becomes an equally interactive determinant, not simply a product (Bandura, 1977). The reciprocal interplay of a unique combination of personal and environmental factors produces a behavioral response that then exerts its own influence. Bandura (1977) states:
People are neither driven by inner forces nor buffeted by environmental stimuli. Rather, psychological functioning is explained in terms of a continuous reciprocal interaction of personal and environmental determinants. (p. 11)

**Developmental Interactionism**

Consideration of social learning theory and the interactional aspects of behavior development leads to the theoretical position assumed by this study: Developmental Interactionism. Recent discussions (Neisworth & Bagnato, 1987; Sprinthall & Sprinthall, 1977) on the principles of effective intervention with handicapped infants and preschoolers are consistent with the interactionist view of behavior (skill) acquisition. The personal characteristics an individual brings to a learning situation include that individual's developmental level. Neisworth and Bagnato (1987) felt that including the developmental level in an attempt to understand a child's skills and abilities recognizes that children's capabilities emerge in an invariant, sequential manner that is directly linked with neurophysiological factors. However, developmental capabilities, particularly for handicapped children, emerge only when specific environmental opportunities to practice, learn, and generalize skills in interaction with others. (p. 66)

While development (neurological, sensori-motor, and cognitive-behavioral) is viewed within this theory as an orderly, sequential process, it does not occur in
isolation. Behavioral development results from continuous social interactions that provide opportunities for the child to initiate, observe, and then practice skills. Learning and progress related to specific skills are products of environmental transactions experienced by an individual developmentally capable of acquiring those skills. Sprinthall and Sprinthall (1981) described this theory as developmental interactionism, which incorporates several previously isolated notions of learning and skill development. The principles of this theory are summarized by Neisworth and Bagnato (1987) as:

1. The child is an active participant in his development.
2. The child is increasingly competent in using adaptive abilities to change the environment.
3. Development is interactive as it relies on reciprocal exchanges between neurodevelopmental functions and the social aspects of the environment.
4. Development is multidimensional, reflecting the emergence of interrelated cognitive, sensorimotor, and social processes.
5. Development proceeds according to individual rates.
6. The child's neurodevelopmental system sensitively responds to appropriately timed opportunities to learn social skills.
Social behavioral development, as described by developmental-interactionist theory, includes three components: the environment, the individual, and the resulting behavioral responses. All three components make mutual and reciprocal contributions to the gradual development of a behavioral repertoire. Attributing social behavior to learning principles permits us to intervene while allowing for individual differences and levels of cognitive abilities.

The Growth of Social Skills in Young Children

As previously indicated, the emergence and development of social behavior in each child is uniquely determined by the interaction of personal and environmental variables. The child's age and developmental level, and the changing nature of early adult and peer-related interactions, represent some of the "alterations in social training, biological, and environmental variables" necessary for growth in social behavior (Bandura & Walters, 1963, p. 25). While age and development are related, the rate of progression of development varies among children, particularly with regard to handicapped children, whose chronological age and developmental age may differ significantly from the norm.
"Age is probably one of the most critical yet severely neglected variables" (p. 479), contributing to the development of social competence, according to Conger and Keane (1981). Age, and the contribution of subsequent developmental change, can affect processes vital to the development of social competence, such as overt behaviors, cognitive processes, and cognitive structures (meaning systems that provide motivation and direction to behavior) (Eisenberg & Harris, 1984). Age is also an important factor in peer interactions. The quality of a child's peer interactions is greatly influenced by the child's capacity in such social cognitive areas as role-taking, person perception, attributional abilities, conceptions of friendships, and interpersonal problem-solving skills (Eisenberg & Harris, 1984; Ladd & Mize, 1983; Shure, 1981).

Within the child's environment, peer relations and interactions with adults represent variables central to the development of social competence. As children grow older, their environment expands and expectations and social demands increase. Hartup (1979) described a "synergism" between the adult and peer-related social systems, where a child's experience in one affects the other. For example, Leiberman (1976) provided evidence correlating a child's social competence in peer relations in nursery school to the initial social interactions with
the mother. What begins as highly parent-directed social development, gradually expands to include peer interaction. While the family's influence cannot be overestimated, the unique role provided by peer interactions has also been recognized. Peers can provide emotional support in unfamiliar and threatening circumstances, facilitate imaginary play, and provide direct instruction in social, physical, and cognitive skills (Asher & Hymel, 1981). Those competencies that emerge from the parent-child interaction are extended and elaborated through peer relations. Peer relations permit the child the trial-and-error opportunities necessary for acquisition of certain social skills. The egalitarian nature of peer relationships lacks the constraints that exist in parent-child relationships, and can provide the reciprocity needed to, for example, develop appropriate aggressive socialization through rough-and-tumble play (Hartup, 1979). The development of effective peer relationships, however, is the culmination of a behavioral learning process that is initiated in infancy.

Infants, Toddlers, and Preschoolers

Social learning begins as infants first open their eyes. A mother's response to her newborn's temperamental characteristics initiates an interactional behavior pattern that may either reinforce caregiving behaviors or
create feelings of inadequacy, anxiety, and dissatisfaction. When a child calms to the touch, turns toward a voice, and fixates its eyes on a face, the infant elicits caregiving behaviors and actually helps socialize the adult into the role of parent. (Examples of the early social skills of infants are provided by Swetnam et al., 1982.) In the first three months, attending to those around him, recognizing and quieting to the caregiver's voice, regulating eating and sleeping cycles, and smiling comprise the infant's social repertoire. Between the fourth and sixth month children may show an actual preference for the caregiver, laugh, increase their activity at the sight of a toy, solicit a familiar person by reaching, babble in response to verbal stimulation, and cooperate in feeding. Nine-to-twelve-month-olds begin to imitate sounds and gestures, offer toys to adults, become aware of strangers, vocalize to demand attention, play reciprocal games, and are able to play along for several minutes. Each of these social skills influences caregiving behavior and affects the quality of interaction with others. Children who respond in unpredictable and "inappropriate" ways to their mothers' caregiving efforts create frustration and a growing insensitivity toward the infants' needs. In the vast majority of cases, however, both parent and child are ready participants in a mutually satisfying interchange, and quickly establish attachments.
through a coordination of behavior that sets the foundation for future social interactions (Beckwith, 1976; Maccoby & Martin, 1983; Swetnam et al., 1982).

Toward the end of the first year, infants begin active social participation in their environment. The rapid development that occurs during this period is characterized by the emergence of babbling, smiling to prolong interaction, mobility, an expanded range of affective expressions, and imitation— which increases the child's ability to sustain interaction and to initiate genuine reciprocal social exchanges for the first time (Maccoby & Martin, 1983; Swetnam et al., 1982). At about 12 months, the rate of child-initiated interchanges increases rapidly as adult initiations simultaneously decrease (Holmberg, 1980). During this period, mothers train children in the turn-taking nature of speech, and children "learn to integrate their behavior temporally with a coactor" (Maccoby & Martin, 1983, p. 34). This process continues through approximately 42 months until that time when the nature of the child's social initiation takes on both the form and frequency of an adult. At this state, the importance of language to social development is apparent. The acquisition of verbal skills permits the child more varied responses with which to engage and maintain interaction with others (Holmberg, 1980).
Between years one and three, toddlers begin to experience socialization pressure. Simultaneously, they are expanding their behavioral repertoire which further facilitates interaction with family, friends, and for the first time peers (Maccoby & Martin, 1983). For young toddlers, social skills are still largely shaped by parents and family. At approximately a-year-and-a-half, children are actively exploring the environment, eliciting attention by showing objects, indicating wants and needs through vocalization and pointing, understanding simple commands, and exhibiting command of a simple vocabulary. Early in the toddler’s social development (prelinguistic), simple joint play with toys, mutual imitation, exchanges of smiles and vocalizations serve as a vehicle for the child’s acquisition of cooperative behavior. Maccoby and Martin (1983) described a major qualitative change in the behavioral demands on the toddler. For this age group, socialization pressure requires the child “to inhibit disruptive antisocial behavior...and learn to engage in socially required or approved behavior, even if this means effort or the sacrifice of some immediate personal goals” (p. 35).

By the age of two, children may engage in sharing behavior upon request, imitate certain adult activities, use words exclusively to express wants, occasionally cooperate with requests, and repeat new words and
expressions (Swetnam et al., 1982). Children at this age imitate several of the altruistic behaviors modeled by their parents, and begin to develop relationships with peers that are heavily influenced by the quality of the parent-child interactions (Pastor, 1981). At three, children may exhibit unsolicited sharing with peers, answer simple questions, speak in sentences, take turns, enjoy group activities, play cooperatively with peers, and help with simple tasks (Swetnam et al., 1982).

After about age three, children exhibit certain metacognitive skills that allow them to plan actions in conjunction with others, perceive long-range goals, and to control the sense of frustration with the delays along the way (Maccoby & Martin, 1983). As the toddler becomes a preschool-age child, the quality of early interactional experiences, language skills, and self-regulatory behavior determine the direction that future social interactions will take in the expanding social environment.

**Preschool Social Competence**

Expansion of social environment for the preschool-aged child (years three to five) actually creates the dilemma of defining specific social skills appropriate for this age group. Preschoolers must respond to the needs of parents, friends, teachers, and other adults in a variety of situations and settings. Children must possess the
social skills that will enable them to meet the demands of the adult world and provide appropriate and positive peer interaction. Among the skills which emerge at this level are the preschooler's ability to:

1. Identify self by name and sex.
2. Greet others.
3. Follow verbal directions and generally comply with requests.
4. Play with others cooperatively for an extended period.
5. Follow rules, share, and take turns.
6. Ask for help.
7. Take pride in work.
8. Sustain an effort.

The social abilities of preschoolers were extensively investigated in the early 1970s as part of the Harvard Preschool Project funded by the U. S. Office of Education. In order to develop an effective curriculum for Project Headstart, White, and Watts (1973) posed this question: What is human competence at age six? Using the preschooler's ability to cope with daily challenges over time as a measure of competence, the project isolated...
social abilities as those that separated the socially competent preschool child from the less competent preschool child:

1. The ability to get and maintain the attention of adults in socially acceptable ways.
2. The ability to use adults as resources.
3. The expression of both affection and hostility to adults.
4. To leading and following peers, assume control in peer-related activities, and follow suggestions from peers.
5. The expression of affection and hostility to peers.
6. The ability to compete with peers, the ability to exhibit interpersonal competition.
7. To praise oneself and/or show pride in one's accomplishments.
8. To involve oneself in adult role-playing behaviors or otherwise expressing a desire to grow up.

The etiology of this competence, in White and Watts' (1973) estimation, and the source of the eventual divergence among children with respect to social competence, first becomes apparent around age two. Two factors related to child-rearing practices emerged as sources of divergence: The manner of response of the caregiver to the emergence of locomotor mobility (crawling
and walking) in the child, and the family’s responses and provisions made with regard to the range and richness of the environment provided during the critical language development period.

A preschooler’s social competence contains social skills in three separate domains: interaction with adults, interaction with peers, and intrapersonal competence manifested through such behaviors as role playing, competition, and expression of pride in accomplishment. While the role of parents and other adults remains crucial to the preschooler’s social development, the hierarchical nature of adult-child relationships limits the child to one qualitative level of interaction. Increased opportunities to interact with peers, and concomitant socialization demands, enrich and expand the child’s repertoire. Peer interactions "allow for the progressive redefinition of a relationship through democratic process, and yield a level of mutual understanding that is not possible between children and adults" (Youniss, 1980, as cited in Maccoby & Martin, 1983, p. 85). The development of self-regulatory behavior necessary for the appropriate expression of intraindividual skills is evidenced by the child’s selection of the proper situation, and control over the level of intensity of his actions in this domain (White & Watts, 1973).
The socially competent preschooler effectively functions in several domains and has developed a complex repertoire of behaviors. Normal development proceeds from the smoothly efficient synchronized exchanges between mother and infant to the continuous oppositional exchanges between peers necessary for the acquisition of interpersonal skills. Not all children, however, proceed along such a harmonious path, due to the presence of handicaps.

Social Skills Development and the Handicapped Child

The development of successful social interactional abilities is disrupted in very fundamental ways by the presence of a disability. Attachment difficulties experienced in infancy, global developmental delays, language deficits, and the highly specialized, restricted environments experienced by many disabled children, may eventually "alter the entire course and outcome of the development of peer interactions" (Guralnick & Weinhouse, 1984, p. 816). While similarities exist in both the organization and progression of interactional skills between handicapped and normally developing children, handicapped preschoolers deviate substantially from what would be expected on the basis of their cognitive levels. This deviance is most notable among the developmentally
delayed with regard to peer-related social interactions (Guralnick & Groom, 1985).

From the outset, infantile impairments affect establishment of parent-child interaction in important ways: The child’s ability to stimulate or react to the parent, and the parents’ perception of the child’s capabilities. Maccoby and Martin (1983) underscored the difficulty in separating the precise influence of each factor by describing the way mothers adapt themselves to infants who are impaired in their ability to interact. With children who are blind, deaf, premature, and those with Down’s Syndrome, parents made qualitatively and quantitatively different accommodations and altered their expectations in ways not seen among parents of nonhandicapped children (Fraiberg, 1974, 1975, 1977; Frodi & Lamb, 1978; Jones, 1977; Langlois, 1981; Meadows, 1975; cited in Maccoby & Martin, 1983). Mothers of Down’s children were more controlling, than mothers of nonhandicapped children, of the infants’ behavior during interaction, due largely to the disorganized and erratic nature of the infants’ behavior. Mutual eye contact and vocal turn-taking were poor compared to nonhandicapped infants and their parents, delaying the coactive nature of sound interactional development.

Normal patterns of interaction are disrupted by real or perceived abilities of the infant. For example,
parents of deaf-blind children repeat simple behavioral sequences more often than parents of nonhandicapped children. Mothers of blind infants show considerable anxiety in the ability to adapt to their infants' needs, although extensive use of the voice provides for interactional patterns quite similar to sighted infants.

The course of interaction between infant and adult can likewise be affected by such variables as the quality of the infant's cry or the child's physical attractiveness. The cries of premature infants have been shown to be considerably more aversive to adult subjects than the cries of full-term infants. In a study regarding the maternal interaction with attractive and unattractive two-day-old infants,

Physically attractive infants were held closer and given more cuddly ventral contact by their mothers than physically unattractive infants. When attractive infants were held by their mothers, the mothers shift their infants' positions less often. Mothers of attractive infants were more sensitive in feeding interactions, and the interactions themselves were...more effective and relaxed. Less attractive infants are looked at less by their mothers and given more distal (relative to proximal) stimulation than attractive infants (Langlois & Swain, 1981, p. 61).

The impact of such variables on the quality of parent-child interactions, and on eventual social abilities, is apparent (Leiberman, 1976). The parents' perception of their child's abilities and what specific characteristics of the disabling condition must imply may
be at least as important as the child's actual behavior. In her discussion of the social development of learning disabled children, Kronick (1981) stressed that while certain types of handicapping conditions were perceived by parents as more or less serious, the presence or absence of specific behaviors in the infant were more critical to the bonding process. Secure attachment of parent to child does not necessarily cause social adequacy; it is most probably reciprocal and reliant on similar variables (Hartup, 1979).

It is impossible adequately to pinpoint the exact origin of socially inadequate behavior given these considerations. What is clear, however, is that a disruption caused by a real or perceived impairment to the normal social developmental sequence can translate into a life-long social impairment; consider the high rate of socially inadequate behavior among the handicapped population (Gresham, 1981b). Projecting the disrupted interactional training of infancy to the preschool period (with its high levels of reciprocal responding and increasing frequencies and durations of peer-related interactions, the impaired are at a considerable social disadvantage by age four (Guralnick & Weinhouse, 1984). Several related factors will also determine the quality of a child's social development. The development of language is among the most crucial.
Language Development and Social Skills

Social, cognitive, and linguistic development are inseparable, each dependent on the other as children interact with others in their environment (Lewis & Cherry, 1977). The development of language is more than the mastery of a symbolic communicative process. It is more than combining and using words according to universally accepted rules. Language is primarily a social system (Warren & Warren, 1983), and its relationship to social skills can be described in several ways. First, the acquisition and development of language is basic to social development. The simultaneous growth of cognitive, social, and linguistic abilities, at various levels of interdependence, has been described in discussions linking social behavior and language acquisition (Garwood, 1979; Lewis & Cherry, 1977; Neisworth & Bagnato, 1987; Warren & Warren, 1983). Second, as a social system, language is devised to convey social meaning. Language is ultimately intended to control the behavior of others, and to regulate the environment. It occurs during a social interaction between a speaker and a listener (Warren & Warren, 1983). Even the prelingual interactions between infant and caregiver represent language or social communication. Infants quickly discover that vocalizations convey intent, and as they learn to
differentiate those vocalizations to provide varied messages, there is language (Bloom & Lahey, 1978).

Thus, before children learn to speak their first word, they have established an effective social communication system with those in their environment. All that is required of social communication is a speaker, a listener, a common code, and a behavior change on the part of the listener (Warren & Warren, 1983). Parents report that they can discriminate at least six different cries within the first month (Moerk, 1977). By three months, a child can engage in a vocal dialogue where social turn-taking emerges. When parents consistently respond to certain infant vocalizations and behaviors, and then model those words to express the child's intent, they have set the common code for socially communicating with others. Over time, the parents replace the physical gestures and cries with linguistic forms that most people in the child's environment can recognize, helping the child respond to and control his environment. At the same time that parents are replacing the earlier nonverbal communications with common linguistic forms, they are introducing the child to the specific social functions of language, expanding the child's social repertoire (Warren & Warren, 1979).

Learning to use language for successful social interaction reinforces and encourages children to
generalize these skills as their environment expands. At about three years, children show an increased desire and ability spontaneously to interact verbally with peers (Mueller, Bleier, Krakow, Hegedus, & Cournoyer, 1977). They have successfully developed the ability to "pull" responses from their peers by selecting message content more appropriate to the listener, to look at the listener, and to attend to the speaker when they listen to others. All of these skills increase the frequency and likelihood of successful social interactions. It may well be that the function of this early language is largely social, not as much to control the environment as to establish and maintain interpersonal contact with new individuals in the environment (Garvey & Hogan, 1973).

Finally, a disruption in any one aspect of the interdependent relationship between social-cognitive-linguistic growth creates delays in the others. For example, congenital cognitive deficiencies result in less satisfying reciprocal interactions between caregiver and infant, limiting opportunities for linguistic and social learning (Neisworth & Bagnato, 1987). Many characteristics common to young handicapped children result in disruption of child/caregiver interaction:

1. Problems of vision and learning.
2. A general lack of responsiveness and social initiative.
3. Difficulties in determining subtle differences among objects.

4. Problems in determining cause and effect relationships.

5. Low levels of motivation.

Taken individually, each of these characteristics represents a hindrance to the acquisition of communication skills necessary for the development of social competence (Warren & Warren, 1983). A handicapped infant’s inability to detect small differences in the sounds of human speech, and other auditory processing deficits, inhibits not only the learning of spoken speech, but important environmental sounds that signal social interaction cues. For example, a child’s inability to distinguish the caregiver’s voice from others or differentiate child-directed speech from adult conversation may reduce the likelihood that the child will attend. Without the child’s attention, the caregiver cannot respond nor be reinforced, reducing the frequency and rate of opportunity for social interchanges (Warren & Warren, 1983).

Reduced responsiveness to the social environment and impaired perceptual or motor abilities interfere with the earliest turn-taking exchanges fundamental to social communication. In contrast to the conversational format of normally developing one-year-olds, developmentally delayed children at 12 months may still vocalize
concurrently with their mothers, not take turns, and fail to exhibit imitative behaviors. Since much of the teaching of social convention occurs within this format, handicapped children's development is further delayed (Vietze, Abernathy, Ashe, & Faulstich, 1978).

An inability to generalize or discriminate new information further disrupts the development of handicapped preschoolers. Communication for preschoolers is quite complex. They must respond to instructions and directions, but may not be able to discriminate the important subtle cues. By 36 months, children experience a simultaneous increase in the rate and mutual responsiveness of their verbal interactions (Garvey & Hogan, 1973; Mueller et al., 1977). At about this age, children's social environments are expanding to include peers and other adults. However, many handicapped preschoolers lack the interactive sophistication to benefit from this experience. Developmentally delayed children typically miss the short pauses in speech, the content of language, the facial expressions and gestures that are a part of socially interactive language (Warren & Warren, 1983).

Studies investigating the association of language to social development among handicapped preschoolers have underscored the aberrant and ineffective nature of their social interactions with peers and adults (Brackett &

The relationship between social skills development and linguistic ability can be most clearly understood through an analysis of the infant-caregiver relationship. From earliest gaze exchange to the turn-taking conversational behavior vital to social interaction, language serves as the vehicle for social development. A disruption in this process in the form of a handicap alters the course of every component of development, cognitive, social, and linguistic (Lewis & Cherry, 1977).

Social Perception and Social Skills

The final component in the discussion of social skills development concerns the concept of social perception, the ability effectively to read the social environment.

While linguistic ability provides the communicative skills necessary to initiate and maintain social interaction, the complexity of interpersonal behavior would suggest that social competence is more than situationally correct motoric or linguistic responses (Hersen & Bellack, 1985). Effective social interaction also,

Depends on the ability to accurately "read" the social environment, determine the particular
norms and conventions operating at the moment, and to understand the messages being sent and the particular emotions and intentions guiding the behavior of the interpersonal partner. Regardless of the magnitude of the response skill, the individual cannot perform effectively if he/she does not adequately receive and process the relevant interpersonal stimuli (Morrison & Bellack, 1981, p. 70).

This description represents a current definition of social perception, one that incorporates many aspects of a complex and multi-faceted process. Social perception contains both a sensory aspect, that is, a stimulation of sensory processes, a perception that infers meaning from the physical events that stimulated the senses (Morrison & Bellack, 1981). Between the sensory stimulus and the assignment of meaning to the stimulus (social cue) that will determine their response, individuals must possess the ability to encode and decode these interpersonal cues. Trower (1979) believed this encoding/decoding process to consist of both "information on the state of affairs in the immediate situation and information concerning outcomes of possible strategies" (pp. 4-5).

Production of socially skilled behavior requires abilities in: (a) skillfully selecting and attending to significant events in the immediate environment, (b) processing the information and accurately inferring the meaning of its intent, and (c) selecting a behavioral response strategy that may produce the desired outcome, all components of social perception. The skills involved
In social perception, like any other skills, can be learned. Individuals learn to apply these skills either through trial-and-error or through observation of modeled behavior. Those who possess effective levels of social perception have learned to interpret the cues the environment provides (Morrison & Bellack, 1981).

Learning effective social perception begins when the infant develops the ability to differentiate social from nonsocial objects. Human infants prefer social stimuli, and by two months of age they have the ability to discriminate and respond accordingly. Shortly thereafter, the infant develops the ability to attend specifically to the features of the human face that are important in differentiating facial emotional expressions. By five months, infants are able to attend to the discriminant features of the face that allow them to determine the presence of positive or negative conditions and then respond accordingly (Lewis, 1985). Infants learn to coordinate their attention (looking and listening) to take measure of the communicative behaviors of those in their environment. Initially, infants begin by looking at a person when they hear a voice. This is due in part to a tendency to turn at the time and in the direction in which a sound is heard, and partly because infants look for a face when they hear a voice. Next, infants develop the ability to perceive a relationship between a face and its
accompanying voice. Finally, infants learn to associate individual voices with specific faces (Spekle & Cortelyou, 1981). These early perceptual experiences involving the voice/face direct the child to the interpersonal cues which are later expanded to include more sophisticated forms of expressing interpersonal intent.

Children's social perceptive abilities have been linked with socially skilled behavior (Gottman, Gonso, & Rasmussen, 1975). Of those attributes most closely associated with the development of accurate social perception, age, intellectual ability, and interpersonal adjustment appeared foremost (Rothenberg, 1970). Children with learning and behavior problems characteristically exhibit less ability in measures of social perception when compared with nonhandicapped children of the same age. Emotionally disturbed children are less accurate in their overall perceptions of facial expressions are more likely to assign negative meanings (Dil, 1972). Learning disabled children are likewise less able to perceive emotion during animated social interactions compared to normal agemates (Dil, 1972; Emery, 1975, as cited in Morrison & Bellack, 1981).

The literature pertaining to the social perception skills in children may be summarized thus:

1. Social perception is related to socially skilled and appropriate interpersonal behavior.
2. Abilities in social perception increase with age. Social perception is primarily a learned ability. As children gain experience in a variety of social situations, they develop the ability to anticipate and predict.

3. Certain populations of children appear to exhibit deficits in social perception skills. Emotionally impaired and learning disabled children have been found to be less accurate in identification of social cues (Morrison & Bellack, 1981).

**Behavioral Assessment of Social Skills**

The use of behavioral assessment techniques to assess social skills is a recent development. Behavioral assessment is the identification and measurement of response units and the environmental and personal variables that control those responses (Nelson & Hayes, 1985). When these responses are defined in a social context and prove effective, or increase the probability of positive social effects, they are defined as social skills (Foster & Ritchey, 1979). This discussion will review the component areas inherent in the development of a behavioral assessment approach to the measurement of social skills. This will include: (a) a definition of behavioral assessment, including the distinction between this and traditional assessment procedures; (b) the use of
behavioral assessment specifically for the measurement of social skills, focusing on direct observational procedures; (c) the use of participant observers in the assessment of social skills; (d) a discussion of the validity and reliability of observational systems; and (e) social skills training and its relationship to behavioral assessment.

Behavioral Assessment

Behavioral assessment traces its origins to the design and methodological issues related to behavior therapy. While behavior therapy has nearly a 60-year history, behavioral assessment as a discipline in and of itself, is a recent phenomenon. In an attempt to answer such questions as whether the behaviors selected for treatment were the appropriate ones for change, whether measurement techniques were valid and reliable, or whether behavior change was attributable to intervention, behavior therapists created behavioral assessment (Nelson & Hayes, 1985). Early behavioral assessment involved the specification of the target behaviors in need of change and their alteration through the rearrangement of environmental contingencies in a manner loosely conforming to operant learning principles (Mash & Terdal, 1984, p. 7).

Emphasis was on obtaining frequency rates and duration measures of behavior, carefully examining the events preceding and following the target behaviors. Initial
behavioral assessment efforts importantly set the empirical and objective standards to the evaluation of treatment needs and outcomes. Recent strategies, however, have come to view individuals more as a part of a larger social interactional system, where cognition and affect control behavioral change (Bandura, 1977). Evans and Nelson (1977) described contemporary behavioral assessment of children as an exploratory strategy rather than a specific procedural methodology, with emphasis on the psychology of child development beyond a controlled experiment. These considerations expanded behavioral assessment (particularly with regard to children) from a method of pinpointing specific target behaviors to a problem-solving strategy (Nelson & Hayes, 1985). These strategies:

1. Are usually carried out in relation to a set of circumscribed purposes.

2. Are based on a particular point of view about children's functioning.

3. Have as their focus certain behaviors, signs, and cues, which are assumed to be important to assess.

4. Possess a unique methodology for gathering, integrating, and interpreting information (Mash & Terdal, 1984).

The immediate goal of behavioral assessment is the identification of response units and their controlling
variables for purposes of understanding and altering behavior (Nelson & Hayes, 1985). The multitude of controlling variables can be summarized in the acronym SORC—Stimulus-Organism-Response-Consequences (Goldfried & Sprafkin, 1976). Response represents the behavior of interest, the other components function interdependently to control the response, which likewise exerts its own influence on the remaining components.

The SORC model presents important implications for assessment. Regarding stimuli, it is generally understood that behavior is situation specific (Mischel, 1968). An individual's behavior is determined in part by the immediate environmental stimuli. The degree of impact produced by environmental forces depends upon an individual's learning history or organism variables such as encoding/decoding abilities. Situation specificity requires the assessor to attend to both response and situational variables. This is a simultaneous process, incorporating important aspects of the stimulus most likely to produce the target response. The assessment process must occur in an environment that does not alter the response.

The individual's (organism) role in the assessment process is best understood in terms of interactionism; a behavioral response is a product of environmental and organismic variables.
Behavioral assessment must account for different responses (behaviors), and the possibility that distinctly different behaviors could be the result of identical environmental stimuli.

Finally, the events that occur following a response, and influence its frequency, are consequent stimuli (consequences). Assessment should have as its ultimate goal the identification of long- and short-term consequences, including consequences resulting from alternative behaviors.

Comparison of Behavioral and Traditional Assessment

Behavioral assessment is fundamentally different from traditional assessment, not necessarily in the techniques used, but in the underlying theoretical assumptions each approach offers as an explanation for human behavior (Goldfried, 1977; Mash & Terdal, 1984; Nelson & Hayes, 1985). Traditional approaches to assessment share a common assumption in that they conceive of personality as consisting of certain relatively stable and interrelated motives, characteristics, and dynamics that underlie and are responsible for the person's overt actions (Goldfried, 1977, p. 5).

Traditional assessment views emphasize the underlying personality structure of the individual, or traits (Mischel, 1968). Behavior is considered a "sign" (Goldfried & Kent, 1972), of what a person has. The cause of behavior is thought to lie within a person (Nelson &
Hayes, 1985), where a few behavioral signs indicate the personality characteristics used to predict future behavior (Goldfried & Kent, 1972). Behavioral assessment, by comparison, attributes behavior to environmental variables. Current behavioral assessment efforts employ an interactionist’s view: "Behavior [as] a function of both current environmental and organismic variables, such as physiological state and learning history" (Nelson & Hayes, 1985, p. 5). Behavior is considered a "sample" of what a person does within a particular assessment situation (Goldfried & Kent, 1972).

The differences between traditional and behavioral assessment are best understood through the comparison of three major underlying assumptions: Personality functioning, the selection of test items, and the interpretation of responses (Goldfried & Kent, 1972; Goldfried, 1977).

**Personality**

When traditional theorists and behaviorists speak of personality they are describing a functionally different variable. To the behaviorist, the personality represents a set of learned capabilities, an additional intervening variable defined by, "the likelihood of an individual manifesting certain behavioral tendencies in the variety of situations that comprise . . . day-to-day living"
(Goldfried & Kent, 1972, p. 412). An individual's personality becomes that abstract quality we assign to describe the compilation of observations of that individual in a variety of situations.

Personality, to a trait theorist, is based on psychic determinism; behavior motivated by underlying dynamics. Personality manifests itself as consistent behavioral responses. Personality is stable in this view, and depending upon the trait dimensions assigned by the assessor, assessment provides the information needed to predict specific behavior (Mischel, 1968) independent of the situation.

With increasing emphasis on individually oriented assessment, Mash and Terdal (1984) felt trait approaches neglected the important aspects of situational variables. Personality, in the behavioral view, is more pragmatic. Behavioral theorists do not deny the existence of certain trait dimensions; however, they reemphasize the need for individuality in assessment (including current environmental variables).

Test Items

The construction and the determination of the content of the assessment instrument is directly related to the assessor’s conception of personality. From a traditional standpoint, the situation that the individual is
functioning in is of less importance than the underlying traits brought to that situation (Goldfried, 1977). If the trait is consistent, regardless of situational variables, development of the procedures for selection of stimulus items requires less emphasis. The initial pool of items is determined by the theorist’s assumptions regarding the nature of the trait being assessed (Goldfried & Kent, 1972). This difference represents issues of content validity; using a theoretical orientation to determine the content of the item pool only assumes the theory has validity.

Behavioral theory emphasizes the selection of carefully sampled situations which may be used only after an exact definition of the appropriate pool situations has occurred. Content validity is of vital importance, as a representative sample of all situations in which the behavior might occur is obtained (Goldfried & Kent, 1972; Goldfried, 1973). Goldfried and D'Zurilla (1969) developed a behavioral analytic method for behavioral test construction. Item selection in this model begins with situational analysis, which provides a sample of situations likely to be encountered. Only the situations with a high likelihood of occurrence are selected for inclusion in the pool.
**Interpretation of Test Results**

Goldfried (1977) believes the "sign"/"sample" comparison offers the clearest interpretation of the difference between traditional and behavioral assessment. When the results of assessment are viewed as "signs" as in traditional assessment, the response is considered an indirect example of an underlying personality characteristic. In most behavioral assessments, test responses represent samples of the behaviors of interest. The assumption made on the interpretation of the "sample" is closely tied to the assumption that the response items are a representative sample of all relevant situations.

Traditional views of assessment assume the consistency and stability of behavior across time (temporal stability). The stability of behavior is a product of the underlying causes of behavior described as motives, drives, defenses, etc., which remain constant (Mash & Terdal, 1984). Strictly interpreted behavioral explanations simplistically predict the lack of any consistency in behavior. But, in reality, this has not been the case. While some general temperamental characteristics have been shown to be relatively consistent (Thomas, Chess, & Birch, 1968), many social behaviors have not (Mash & Terdal, 1984). Mischel (1968) has offered several explanations for this. First, individuals reside in relatively stable environments with
similar repetitive stimuli. Second, intermittent reinforcement continually adds to a behavior's durability. Finally, learned cognitive encoding strategies remain constant. Behavior patterns acquired to fill physiological needs remain constant, as do such variables as gender and appearance. This may account for consistent patterns (Statts, 1971, as cited in Nelson & Hayes, 1985). This issue is addressed by behavioral assessment by measuring an individual's behavior in similar situations across time. The importance of providing information regarding temporal stability is for purposes of prediction.

Summary

Mash and Terdal (1984) have summarized the major distinctions between behavioral and traditional assessment as follows:

1. Where traditional trait theory emphasizes historical causes, behavioral explanations consider multiple, simultaneously controlling variables.

2. Response in traditional theory represents a sign of underlying cause. Behavioral responses are interpreted as samples of the behavior of interest.

3. The goal of traditional assessment has been diagnosis/prognosis. Behavioral assessment focuses on
obtaining information directly applicable to treatment or treatment evaluation.

4. Behavioral assessment, by its definition, has used more direct assessment methods, in contrast to interviews or self-reports.

5. Behavioral assessment attempts to minimize inference in interpreting results.

6. Rather than a single event prior to treatment typical with trait assessment, behavioral assessment is continuous and provides for ongoing treatment evaluation. Assessment and treatment are closely allied in the behavioral approach. Treatment assignment following assessment in the traditional approach is more likely to reflect the bias of the therapist than address needs revealed through assessment.

Behavioral Assessment of Social Skills

The development of social learning theory and other behaviorally oriented definitions of human functioning has created a need for assessment techniques consistent with the principles of behavioral assessment. With social skills, behavioral assessment measures the specific responses of individuals as they interact with their environment. Effective interaction or response is referred to as competence, where competence is defined as the simultaneous altering of a situation to relieve a
problem, maximize positive, and minimize negative outcomes
to that situation (Goldfried & D'Zurilla, 1969). When
this definition of social competence is applied to social
interaction, it encompasses the use of specific skills in
the resolution of problems. The use of behavioral
assessment techniques in the evaluation of social
competence involves recording the presence or absence of
social skills through the interpretation of the responses
applied to socially problematic situations.

Observational measurement of social competence in
children has only recently emerged. As with any emergent
procedure, there exist a great many concerns and
unanswered questions regarding method and meaning.
Discussions addressing these issues are widespread in the
social skills literature (Bellack, 1979a, 1979b; Conger &
Conger, 1986; Curran, 1979; Foster & Ritchey, 1979; Foster
& Cone, 1986; Gresham & Elliott, 1984; Hops, 1983;
Sprafkin, 1980; Wildman & Erickson, 1977). Most
discussions revolve around theoretical and methodological
threats to validity and reliability.

Clearly, the most perplexing problem confronting
assessors of social skills has been the "what," not the
"how" or "why." This is reflected in the literature
discussing general problems and issues related to social
skills assessment. Common themes include:
1. The nature of the response classes to be included; should social skills be limited entirely to observable motoric acts? The response classes included within the term social skills has largely been determined by the assessor's theoretical perspective (Bellack, 1979a; Curran, 1979; Schlundt & McFall, 1985).

2. The level of assessment (global molar categories or their molecular components) (Bellack, 1979a and b; Curran, 1979).

3. The decision to include measures beyond individual responses such as antecedents and consequences (Curran, 1979).

4. The situational parameters that define socially skilled behavior under varying conditions (Foster & Ritchey, 1979; Kazdin, 1985).

5. The appropriate use of normative data in the interpretation of results (Hay et al., 1977; Kazdin, 1985).

These issues have resulted in a lack of agreement concerning a common definition of the precise nature of socially skilled behavior.

Methods in the Behavioral Assessment of Social Skills

The procedures and methods for assessing social skills have been widely described (Arkowitz, 1985; Asher & Hymel, 1981; Bellack, 1979b; Foster & Ritchey, 1979;

**Selection/Diagnostic Procedures**

Selection/diagnostic procedures are designed to determine the existence of social skills. Methods include sociometries, ratings by others, self-reports, and behavioral role-play (Gresham & Elliott, 1984). Sociometric peer-nomination methods are very common in the identification of socially competent children. Children are instructed to name best friends, those they would most like to play with, etc., in an attempt to establish a child's social status. Competence scores are derived from the number of nominations a child receives in the individual categories. Techniques have been developed for non-readers as well. Sociometries have been found to have moderate test/retest reliability, good concurrent validity with teacher judgments, and significant predictive validity. Sociometric ratings may, however, be greatly influenced by the size of the rating group, where extreme scores may appear. Sociometric ratings also have been
criticized for their lack of specific information as to the nature of the social skills problem, and for the limited population on which many scales were validated.

Self-report instruments are widely used among adult populations, but less so among children. Designed to measure many aspects of social behavior, participants are generally asked to indicate their response to a number of social situations, either through a Likert-type scale or by indicating other descriptors (Arkowitz, 1985; Bellack, 1979a). The usefulness of self-report measures have been seriously questioned in light of their inability to predict sociometric status, teacher ratings, and naturally observed behaviors. Given their lack of criteria-related validity, it has been recommended that self-reporting not be used to determine either selection or outcome measures in social skills training assessment with children (Gresham & Elliott, 1984).

Behavioral role-play (BRP) assessments are among the most widely used direct observational methods. A social situation is described to the individual, and then a prompt line is offered to initiate the interactional sequence. Either the interaction ceases after the initial response or an entire sequence is observed and assessed. Despite numerous advantages (access to low frequency behaviors, actual behaviors versus perceptions or ratings of others, tighter control of specific stimulation, and
reduced expense), research has failed in the natural setting (LaGreca & Santogrossi, 1980). Additionally, role-play behavior has not been shown to be related to sociometric status, self-reports, or teacher ratings. Widely used in early adult social skills research, BRP assessment's lack of predictive validity limits its usefulness for the assessment of social skills in children (Arkowitz, 1985; Asher & Hymel, 1981; Bellack, 1979a; Gresham & Elliott, 1984).

**Procedures for Intervention/Therapy**

Procedures intended for intervention and therapy include behavioral interviewing, self-monitoring, and naturalistic observation. These methods are designed to provide information useful for planning and evaluating interventions for producing a functional analysis of behavior (Gresham & Elliott, 1984; Hops & Greenwood, 1984).

Behavioral interviewing has for decades served as the primary source of information for psychological and psychiatric assessment (Bellack, 1979a). Interviewing from a behavioral perspective differs, however, from traditional interviewing in that it includes more specific questioning, defines behaviors in observable terms, provides a functional analysis of social behavior, and contributes directly to treatment intervention design.
behavioral interviewing produces important interpersonal and historical information, and some informal observational data, it is limited by the individual's selective recall and the interviewer's data-collection biases (Bellack, 1979a). Despite the widespread use of behavioral interviews, little research has been conducted using the behavioral interview to assess social skills, particularly with children (Arkowitz, 1985; Gresham & Elliott, 1984).

Self-monitoring requires an individual to keep daily records of the variables related to the behavior of interest, and has been used primarily in studies of heterosexual interaction. There is little reported use of this technique for purposes of assessing general social functioning. As a procedure, it suffers from problems of reliability and accuracy reported within self-reporting techniques (Arkowitz, 1985; Galassi & Galassi, 1979). It appears to be of limited use in the assessment of children's social skills.

Among the procedures intended for intervention and therapy, naturalistic observation is of primary importance to this discussion. "Direct observation in the natural environment is one of the most powerful forms of behavioral assessment" (Arkowitz, 1985, p. 314). The strategies employed in naturalistic observation provide
the most face-valid means of assessing social skills in children: Observations of children interacting with other children and adults in everyday situations (Asher & Hymel, 1981). Referred to as the "penultimate assessment strategy," (Trower, 1979) an observer "directly samples" (Goldfried & Kent, 1972) from the child's social skills repertoire by observing how the child behaves at specific times in specific situations (Sprafkin, 1980).

Generally, the direct observation of behavior involves an assessment based on discrete response occurrences, or the number of times that a behavior occurs (Kazdin, 1985). The strategies available include:

1. **Frequency measures** or simple response rates are easy to score in the natural setting. The frequency rates also provide a measure of the amount of behavior performed, making changes in behavior easy to measure.

2. **Discrete categorization** can be useful where behaviors have a clear beginning and ending. Categorizing behaviors as correct/incorrect or performed/not performed provides an opportunity to assess several different behaviors simultaneously.

3. There are situations in which increasing a group's performance is desired. Intervention effectiveness may be determined by the number of individuals who perform the behavior of interest.
4. **Interval recording** uses discrete time units as opposed to response units. Measurements are taken either through a single block of time, or for brief periods at different times. Behavior is recorded as "occurred" or "did not occur" during these intervals.

5. **Duration**, or length of time a behavior occurs, is another time-based strategy. More useful for continuous types of responses, duration techniques may also be used to measure the length of time it takes the child to initiate a behavior (latency) (Alessi & Kaye, 1983; Kazdin, 1985).

In considering the appropriate observational strategy, Mash and Terdal (1984) listed several important factors: (a) the stage of the assessment process, (b) the characteristics of the behaviors of interest, (c) the situation in which the observation is to occur, (d) observer characteristics, and (e) the technical resources.

At the very least, observational assessment should be based upon an examination of settings for observation, and thorough discussion of the use and interpretation of the observational data.

**General Issues in Observational Assessment of Social Skills**

Direct observational techniques in behavioral assessment of social skills present a unique set of problems. Beyond the need for discrete and manageable
definitions of the target behavior (Bellack, 1979b; Schlundt & McFall, 1985), the use of human observers compounds methodological problems by introducing particular threats to reliability. Historically, much of the information gathered concerning child development during the 1920s and 1930s was a product of direct observational procedures in the natural setting. Early researchers recognized the threats to reliability and validity caused by improper observer training, poor code development, errors in behavior sampling, and issues of timing during behavior sampling. Partially in response to these concerns, much of the investigatory work in 1940s and 1950s was conducted under simulated clinical conditions, where many of these threats to reliability could be more adequately controlled. However, since the 1960's the human observer has again taken a significant role in the collection of behavioral data (Wildman & Erickson, 1977). The questionable generalizability of clinically derived data to the natural setting and the apparent face validity of observational data in the natural setting helped reestablish the technique among behavioral assessors. The intervention programs designed in response to this form of data have raised new issues of reliability and validity in recent years. Wildman and Erickson (1977) felt that the reliability of observational data is generally measured by the extent to which the
observers agree in the recording of the behaviors . . . validity refers to the extent to which data collected by the observers agree with another criterion. (p. 256)

With social skills, this "other" criterion has most often been a sociometric measure or a teacher rating scale (Asher & Hymel, 1981). Specific issues regarding the reliability and validity of data collected through direct observational procedures will be addressed later in this chapter.

The vast majority of the methodological problems presented in the literature concern those variables affecting the reliability and validity of observational data. These variables may be organized into three areas: The observer, the nature of the instrumentation, and issues related to the subjects themselves (Foster & Cone, 1986; Gresham, 1981a; Wildman & Erickson, 1977).

Threats to reliability stemming from the observer can take several forms:

1. Training problems may arise if training is not extensive enough of an improper type, if the observers were not totally familiar with the behavior categories by training's end, and if the samples used during training were not representative of those observed during data collection.

2. Reactivity refers to the extent to which the observer's presence produces changes in the subjects' behavior. The degree of change may be influenced by the
age of the subject; older subjects react more perceptively to observer presence (Asher & Hymel, 1981). Reactivity can likewise influence data under conditions where the observers know their recording is being closely monitored (Wildman & Erickson, 1977).

3. Drift may occur when the accuracy of an observer's measurement is gradually influenced by "instrument decay;" fatigue or learning causes the collection process to deteriorate over time. Kazdin (1985) described observer drift as the gradual departure from original definitions during recording. Either situation may create problems with observer agreement and decrease accuracy (Foster & Cone, 1986; Wildman & Erickson, 1977).

4. Bias is a natural product of human involvement in observational data collection. Observers bring preferences and tendencies, individual hypotheses, or generate new hypotheses once in the observational environment. Expectations may likewise bias the observer.

The nature of the instrumentation can also produce methodological concerns for observational data collection. Instrumentation refers to the observational procedure's behavior code, the sampling method, the way in which interobserver agreement is determined, and issues of timing.
1. Codes, numeric or symbolic representation of behaviors, are utilized in observational recording procedures. The more clearly and objectively the behavior is defined in this process, the higher the interobserver agreement (Wildman & Erickson, 1977). Also, a balance must be struck between restricting the number of responses in a behavioral category (interobserver agreement decreases as the number of possible responses increases within a category), and including sufficient responses to provide improved discriminability of results.

2. Sampling procedures include the nature of the recording method as well as the selection of the precise time observation will occur. Generally, observations are scheduled when the target behaviors are likely to occur. Choosing a collection technique (frequency counts, interval recording, etc.) is determined by the nature of the target behavior.

3. Observer agreement is the accepted means of determining the usefulness of direct observational data. Traditionally, agreement on occurrence versus non-occurrence in response to the same event has served as the yardstick for acceptability. Various methods of calculating interobserver agreement exist through the use of correlations between agreement and non-agreement. A major unresolved issue, however, is the lack of criteria
for establishing acceptable levels of observer agreement (Foster & Cone, 1986; Wildman & Erickson, 1977).

Even with carefully designed efforts to control observer and instrumentational threats to observational outcomes, the third variable, subjects and non-subjects in the environment, often introduce their own influence on data. In an ideal situation, observational data are collected unobtrusively to diminish the possibility of reactivity. However, even when recording is completely inconspicuous and all precautions have been taken, non-subjects in the environment, with knowledge of the observation, can influence the environment to the degree where behavioral responses are altered. Teachers will alter their behavior during the observation of their students, significantly influencing the subjects' behavior (Bellack, 1979a). Subject reactivity among children may represent another but less serious threat. Wildman and Erickson (1977) reported that children "habituate to being observed" beyond the initial observations. Subjects also vary in the individuality of their "response topography." These are the unique and varied characteristics each individual exhibits in response to specific stimuli, and it can affect interobserver agreement (Foster & Cone, 1986; Wildman & Erickson, 1977).
Teachers as Participant Observers in Behavioral Assessment

The presence of certain non-subjects and unfamiliar observers in the environment produces threats to the reliability of the observational data in the form of reactivity. Recently, efforts have been made to reduce this threat through the use of participant observers: individuals already present in the observed's environment (Hay et al., 1980). In the preschool environment, the participant observer would be the teacher. From a practical standpoint, the teacher simultaneously represents the most available observer and the major change agent in the child's environment. Assuming that the observational system is easily learned and provides sufficient data at levels easily translated into intervention targets and objectives, teachers as observers represent a possible solution to issues of reliability, validity, and generalizability (Hops & Greenwood, 1984). Teachers offer practical advantages in terms of cost and proximity in the school setting, providing a higher likelihood that the teacher will be present when target behaviors occur (Hay et al., 1977). Teachers also represent an opportunity to control problems of reactivity and its threat to reliability. The intrusion of an unfamiliar adult for purposes of observation invariably alters student behavior, at least initially. Reactivity among preschoolers, while anticipated to be less profound
than among school-age children, could be reduced even further by employing the most familiar adult in the environment as an observer. Teacher observers eliminate the need to reduce obtrusiveness through special techniques and devices (one-way mirrors), reduce observational time (need to habituate individuals to being observed), and the need to manipulate effectively the environment for purposes of observation (Foster & Cone, 1986).

There are several notes of caution concerning the use of teachers as participant observers:

1. Of a particular concern are reported changes in teacher (observer) behavior during periods of observation that then produce changes in student behavior. Hay et al. (1977) reported that "initiating observations of student behaviors by teachers significantly changed student classroom behavior and teacher verbalizations" (p. 347). The increase in the number of prompts given to the observed students during observational periods resulted in reactive changes in their behavior. A follow-up study by the same group (Hay et al., 1980) confirmed earlier findings of participant-observer behavior change. "Variables other than the addition of observers to the environment may account for changes in behavior" (p. 504), including observer/observee characteristics, recording
procedures, or the nature of the observer/observee interaction.

2. Under certain observational recording procedures, participant observers may have difficulty simultaneously collecting data and performing regular routines in the target setting. This would pose a particular problem when target behaviors are high-frequency or difficult to discriminate (Kazdin, 1985).

3. With the exception of Hay et al. (1977, 1980), most research on the methodology of direct observation has been conducted with non-participant observers. Foster and Cone (1986) stressed the uncertainty this fact created in the generalization of findings to participant observational procedure.

Observational Assessment of Handicapped Preschoolers

Despite the recent upsurge in social skills assessment efforts with children and adolescents, there remain "few well-standardized instruments designed to assess the social skill level of handicapped children" (Gresham, 1982a, p. 426). At the same time that specific social skills training has been included in the curricula for the handicapped, observational and intervention research is raising serious methodological questions concerning assessment procedures (Greenwood, Walker, & Hops, 1977). Strain (1983) attributed this lack of
adequate assessment to: (a) the use of overly broad behavioral categories; (b) inadequately short behavior samples from individual children; (c) the reliance on single social behaviors as the unit of measurement rather than interactional sequences; and (d) the questionable reliability and validity of the observational systems.

The selection of relevant skills remains the universal problem to developers of observational systems. Generally, however, skills have been selected for inclusion to most systems based on interactions of those children rated as "competent" or "less competent" through a criterion index such as sociometric status (Strain, 1983). Research pertaining to social competence based on peer acceptance is of limited use, however, in the assessment of social competence for young handicapped children. To Gresham (1981) this is related to problems (a) with the use of professional judgment for skill identification rather than observational evidence, (b) with the use of analogue assessment situations that are poorly related to naturalistic assessment, and (c) with conceptualizing social skills as transitiutional.

Several observational systems have been recently developed for preschool children with handicaps and those experiencing social behavior problems. The Social Assessment Manual for Preschool Level (SAMPLE) was specifically developed for use by school counselors,
psychologists, and teachers (Greenwood, Todd, Walker, & Hops, 1978). Designed to identify socially withdrawn preschoolers, the SAMPLE Observation System (SOS) records reciprocal interactions defined as verbal, nonverbal, or physical exchanges of signals between target child and peer.

The system's developers admitted to a lack of differentiation of response topography and information concerning the interaction's duration. For identification purposes, SAMPLE provides frequency rates common among instruments used to describe social withdrawal. Without additional information at a molecular level (nature and situational parameters of initiation of interaction), frequency rates have been shown to be of limited usefulness: Simply increasing rate of interaction is no guarantee of social acceptance or peer approval (Gresham, 1982b; Gresham & Elliott, 1984). Hops (1983) believes, however, that any system using more complex coding procedures, requires extensive training, and so would rule out the use of school personnel.

Two systems designed specifically for measuring the social behavior of handicapped preschoolers include Strain's (1983) identification of social skills targets for severely impaired preschoolers and the less formal Social Observation for Mainstreamed Environments (SOME) developed by Johnson and Mandell (1988).
Strain (1983) used a variety of settings in an integrated preschool classroom for purposes of identifying potential social skills targets for severely handicapped three-to-five-year-olds (primarily mentally retarded and autistic). The effort combined two conceptual models of social competence (personal attraction and peer acceptance) in order to delineate observational categories. The procedure recorded evidence of the following behaviors: (a) reward-related activity, (b) complimentary verbal statements, (c) play organizer, (d) sharing, (e) physical assistance, (f) rough-and-tumble play, (g) affection, and (h) conflict resolution. To measure the reciprocal nature of social interaction, these categorical responses were recorded as either initiated or responded events. Recording procedures included one-minute time blocks (10 seconds apart) in which social behavior was continuously recorded.

Strain's (1983) efforts provided two important outcomes in relation to any future efforts. First, continuous recording of reciprocal interactions provides adequate and reliable target information for intervention purposes. Second, response categories shown to be important requisites for social acceptability among the non-handicapped likewise apply to handicapped preschoolers.
The observation system applied to Strain's (1983) research used extensively trained observers from outside the environment, rather than participant observers. Whether this system could be effectively used by practitioners is open to question.

A system designed by Johnson and Mandell (1988) specifically for the participant observer is the Social Observation for Mainstreamed Environments (SOME). The SOME represents an informal system to aid the practitioner in determining whether a handicapped preschooler "has the necessary social skills to participate successfully in the mainstreamed environment" (p. 19). Items on the SOME checklist represent social skills identified in the literature as important to integration at the preschool level. The checklists included (a) attending to and completing tasks with a minimum of adult assistance; (b) appropriately initiating interactions; (c) the ability to observe and imitate peers; and (d) affecting change in the environment. The authors included 15 separate observable behaviors associated with these skills.

The format consists of a checklist on which the teacher may include observations, comments, and suggested resolutions. "Observation" in the SOME refers to any evidence of the target behavior during loosely structured sessions recommended to total 40-to-50 minutes. Corresponding with each behavioral category, the SOME
provides space for the classroom expectation specific to the category. Additionally, the form consists of a section for any comments, concerns, and suggested resolutions for problem behaviors.

Despite rather loosely constructed observational procedures, the SOME represents an effort to provide discrete target behaviors for the participant observer. Its existence is evidence of the need for a procedure in which the practitioner may "identify discrepancies between a child's social skill development and the expectations of a particular environment" (p. 21).

**The Reliability, Validity, and Generalizability of Observational Systems**

The conceptual differences between psychometric assessment and behavioral assessment becomes most apparent within their notions of reliability and validity. Unlike traditional testing and assessment, behavioral assessment emphasizes the individual rather than the norm group. Where psychometric assessment is conducted for purposes of comparison to a reference group, behavioral assessment attempts to identify relevant behaviors and their controlling variables.

Developers of behavioral assessment techniques initially rejected all aspects of psychometric theory, including the necessity for measures of reliability and validity. This resulted in large numbers of
"idiosyncratic" systems (very situationally specific and narrowly defined) that lacked any real attempt at standardization or measures of consistency (Mash & Terdal, 1984). Recent discussions (Cone, 1985; Kazdin, 1985), however, have emphasized what earlier critics (Cone & Hawkins, 1977) predicted: For behavioral assessment to develop clinical significance, it must begin developing and accumulating standardized procedures. Concepts of reliability and validity are as vital to research employing behavioral assessment as the classical test theory from which it originated (Mash & Terdal, 1984). This discussion will address reliability and validity in behavioral terms.

**Reliability of Observational Data**

Initial rejection of the necessity for measures of reliability originated from behavioral rejection of classical personality theory. Lacking any proven consistency in behavior across time and situation, behaviorists dismissed the notion of test consistency as irrelevant. Variability in scores over time, in their view, as not reflective of unreliable testing, but rather proof of the inconsistency in actual behavior (Mash & Terdal, 1984). Johnson and Bolstad (1973) described this rejection as a profound conceptual error, one that misinterpreted Mischel's (1968) explanation of behavioral
inconsistency. In their discussion, score reliability was as important a requirement to behavioral research as to traditional assessment. In both instances, the assessor is dealing with scores for purposes correlating them with other variables.

The essential issue in behavioral observation is the consistency with which individual observers record identical events. This is referred to as interobserver agreement or reliability. Once target behaviors are defined, the strategy for assessment determined, and situational parameters chosen, observations are completed by several observers. Determining the level of agreement between observers will show how completely the observers are obtaining a clear pattern of behavior. If the individual observers are inconsistent in their agreement, we must question the procedure as well as observer training and functioning. Additionally, consistency among observers provides evidence as to how well the target behaviors are defined. Agreement in observed behavior allows for more precise intervention design (Kazdin, 1985). Interobserver agreement (reliability) can be subject to a number of threats, described earlier, and should be assessed and evaluated periodically. Interobserver agreement, however, remains the primary test of reliability for most observational techniques.
Validity of Observational Data

Just as notions of reliability were ignored in behavioral assessment, the concept of validity was overlooked. To the behavioral assessor, variability across situations is the norm; it reflects the reality of that behavior and is not a reflection of the measure's validity (Mash & Terdal, 1984). This was held to be true despite the very narrow situational parameters early behavior modification research employed. Little attention was given to the fact that the observational data may or may not have been representative of behavior in other situations. Behavioral research found its greatest critics among those who questioned the validity of such work when generalizations were attempted beyond the defined research situations (Johnson & Bolstad, 1973).

Behavioral assessment has traditionally only concerned itself with the "face" validity of behaviors. And, in situations where the variables are very clearly defined and described, face validity can be quite persuasive (Johnson & Bolstad, 1973). Goldfried (1977) warned that "face" validity is not sufficient evidence alone to provide the validity of the content of that measure. The behavioral-analytic approach (Goldfried & D'Zurilla, 1969) to assessing competence, described earlier, represents a widely accepted method of establishing content validity of a behavioral assessment.
measure. Through the proper sampling of criterion behaviors across situations (situational analysis, response enumeration, and response evaluation), the assessor at once provides for the validity of content and definition of the construct (Goldfried, 1977).

**Generalizability**

To the behavioral assessor, reliability, validity, and observer agreement actually represent a central issue, one of "generalizability." The effectiveness of behavioral assessment is best determined by the degree to which data can be generalized to the "universe" which it is assumed to sample (Cronbach, Gleser, Nanda, & Rajaratnam, 1972). Within the "generalizability" model, all questions of reliability and validity revolve around the specific universes the assessor wishes to generalize the data to. These universes might include: scorer, items, time, setting, method, or dimension.

1. **Scorer** generalization is a measure of how well the data provided by one observer compares to the mean of all the other observers. When observations closely match, generality across observers is assumed. Scorer generalizability also contains observer accuracy-agreement between an observer and a protocol for which a key has been established (Cone, 1985; Johnson & Bolstad, 1973). Cone (1977) believed that
Interobserver agreement reflects both the accuracy or validity of the definitions of a particular coding system, and the consistency or reliability with which they may be applied. Before validity can be established, consistent application of the system must be shown. (p. 415)

2. Establishing **item** generality for observational procedures, particularly those with extensive coding systems, involves the placement of large numbers of discrete behaviors under a smaller number of distinct categories. Then the correlation between items (behaviors) across a group of subjects indicates the extent to which observations of each behavior generalize to the others in that category.

3. The universe of **time**, or temporal aspects of measurement, focuses on the generalizability of the observed behavior from one occasion to the next. Behavioral assessment is less concerned with consistency in this universe for purposes of theoretical support, than it is with evaluating intervention. In this regard, repeated measurement of the behavior over time allows an assessor to compare the effect of intervention versus the simple passage of time.

4. **Setting** involves the situational generality of the behavior of interest. The generalizability of this universe is of extreme importance to the validation of intervention techniques. It may be necessary to establish apriori, those environments or settings of interest,
collect observational data in each setting, and establish correlations across these settings.

5. Behavioral assessment establishes the generality of its methods through the comparison of data produced by one method (e.g., observation), with data produced by another method (e.g., rating scale) designed to measure the identical behavior. This represents the analog to traditional convergent validity. With social behavior, method generalizability is often established in such a way.

6. The final universe in the generalizability model (Cronbach et al., 1972) consists of dimensions: "The comparability of data on two or more different behaviors . . . often considered a form of construct validity in the personality assessment literature" (Cone, 1977, p. 422). Construct validation has not been a major concern to behavioral assessors, although some efforts have been made to compare one measure with another. Dimensional generality merely represents one way of validating a construct in behavioral theory. The generalization of scorer, items, time, setting, and method all provide opportunities to explore the validity of an assessment procedures (Cone, 1977).

From a global perspective, all issues of reliability and validity (generalizability) that apply to traditional assessment apply to behavioral assessment. Differences
occur at the philosophical level, not at the methodological. Traditional psychometric testing employs more indirect methods, viewing behaviors as signs; behavioral assessment views those observable behaviors as the relevant response (Cone, 1977). Regardless of the terminology, all assessment requires consistency in measurement to permit: (a) a demonstration of the relationship between dependent and independent variables, and (b) a convergence among separate methods in measuring the identical behavior (Johnson & Bolstad, 1973). Finally, all assessment must have as its main priority the establishment of scorer agreement/generalizability (Cone, 1977; Johnson & Bolstad, 1973), difficult enough when it involves human judgment.

**Behavioral Assessment and Social Skills Training**

Behavioral assessment and intervention are very closely associated. The purpose of any behavioral assessment is to provide the data in the form of responses and personal and environmental variables, necessary to design an individualized intervention strategy. The direct relationship between assessment and treatment is no different with regard to social skills. Techniques in social skills training have recently emerged from efforts in both psychology and education to address the social and emotional difficulties arising from deficits in social
skills. A comprehensive review of social skills training is not the intent of this discussion. However, to provide a better understanding of the goal of behavioral assessment of social skills, social skills training will be described through its definition, methodology, and a brief review of current and past efforts, particularly those pertaining to handicapped preschoolers.

Social Skills Training

The techniques used for training children in social skills are based on the social learning theory described by Bandura (1977). The vast majority of these techniques have relied on rather broad instructional concepts and learning principles such as modeling, shaping, and coaching (Ladd & Asher, 1985). Gresham (1981b; 1982a) categorized major social skills training efforts into (a) those that manipulate antecedents, (b) those that manipulate consequences, and (c) those that use modeling. Modeling procedures encourage children to observe peers and adults as they demonstrate specific skill. Manipulation of antecedents and consequences includes the "shaping" of social behaviors through the control of the social environment in an effort to increase the child's experience of reward for engaging in specific social behaviors. Additionally, "coaching" methods have been used where the children are instructed in the conceptual
nature of the skill while they are guided through behavioral rehearsal (Gresham, 1982a; Ladd & Asher, 1985).

Most social skills training techniques reflect the authors' understanding of behavior change (Combs & Lahey, 1981; Conger & Keane, 1981; Gresham, 1982a; Oden, 1982; Oden & Asher, 1977; Odom & Strain, 1984; Ladd & Mize, 1983; Ladd & Asher, 1985; Rinn & Markle, 1979). Instructional procedures in these techniques share several common features, such as: (a) a concise definition of the skill to be taught; (b) a task analysis of the steps involved; (c) a presentation of the rationale for learning the skill; (d) modeling of the behavior; (e) role-play and practice; (f) coaching and prompting; (g) reinforcement; and (h) teaching behavioral rehearsal strategies (Jenson, Sloane, & Young, 1988).

Social Skills Training and Handicapped Preschoolers

Discussions and reviews pertaining to social skills training (SST) for children seem to agree on two points. First, social skills training, as a method of assisting children with peer relationship problems, appears to have promise. Second, most research investigating the efficacy of SST in treating specific interpersonal difficulties (isolation, withdrawal, aggression, etc.), exhibit serious methodological problems (Conger & Keane, 1981; Combs & Lahey, 1981; Ladd & Asher, 1985; Oden, 1982; Oden & Asher,
Studies of ST and the handicapped have been similarly described (Gresham, 1981b, 1982a; Odom & Strain, 1984). Preschoolers, as a group, have been the subjects of many SST studies; Conger and Keane (1981) described seven preschool studies that investigated the effects of modeling alone between 1969 and 1979. The vast majority of this research, however, involved isolated, rejected, unpopular, or unassertive children in regular schools who were not receiving any specialized services (Spence, 1983). The research also tends to focus on individual techniques (e.g., role-playing), with less attention given to the subjects' characteristics and the interaction between the two (Curran, 1977).

Specific to handicapped children, Gresham (1981b) reported improvements following SST in two of the primary areas of social functioning: Rate of interaction and peer acceptance. Several unanswered questions remain regarding SST with handicapped children:

1. What specific social skills should be selected for training and what might their impact be on the interpersonal relationships between handicapped and non-handicapped children?

2. What specific social skills and in what settings will SST produce the most predictable results? Addressing this question requires more "socially valid" measures in
the context of the target environment, beyond the special education classroom.

3. How are these skills maintained, and what are their long-term effects?

4. What are the specific social skills needs by type of handicap and developmental level, and which children would most likely respond to which method (Gresham, 1981b, 1982a)?

Oden (1982) suggested that, given the range and combinations of problems handicapped children present, SST efforts will need to use a variety of methods, procedures, and instructional strategies. Research efforts, in her opinion, should "focus on determining effective combinations . . . for helping children with diverse and complex social learning and peer relationship problems" (p. 88).

A study of the long-term effects of preschool special education (Fredricks, Moore, & Baldwin, 1982, as cited in Odom & Strain, 1984) indicated that those severely handicapped children enrolled for at least two years in preschool scored significantly higher on measures of language, academic, self-help, and motor skills than children with zero-to-one-year in preschool. Their social skills, however, were identical. Given the long-term impact of social skills deficiencies, preschool children with handicaps must receive skill training in the social
domain as well. Classroom observations indicated that while teachers feel the need for social curricula, they rarely include SST in curricular planning. Odom and Strain (1984) offered these suggestions for SST in the preschool classroom for the handicapped:

1. Teachers must actually schedule substantial time for SST, plan specific activities, and provide opportunities for children to interact.

2. Preschool classrooms must be prepared for SST. Ecological factors, such as play materials, activities stressing high social value and interaction rates, and physical arrangement of the room can all influence behavior and promote training opportunities.

3. The teacher must select instructional targets based on goal-related criteria. Target behaviors that will assist in transition to less restrictive settings, help form friendships, or initiate interactions may be selected.

4. Instructional strategies, including teacher-mediated or peer-directed social initiations, may be used. Depending on the level of the children’s skills, peers can be trained to aid in social initiations.

Much remains to be learned in the SST of handicapped preschoolers; but, the need for SST is apparent. Effective SST begins with reliable and valid behavioral assessment techniques. The basic premise of behavioral
therapy is the inseparable nature of assessment and intervention: Each intervention strategy is uniquely designed in response to specific behavioral assessment data. The first step in providing the handicapped preschool population with effective intervention in social skills is the development of a comprehensive assessment procedure. This study represents the initial phase of the development of such a procedure.
CHAPTER III

METHOD

This chapter describes the development of the observational assessment technique necessary to address the research question: Can teachers of preprimary impaired children consistently and reliably use a behavioral assessment technique to observe and record the social behaviors of preschool children? This chapter will also provide a description of the data analysis used to answer this question. Data collection required the simultaneous development of the Social Behavior Recording Sheet (SBRS) and the videotape of behavioral samples. A description of research methods will include: (a) a brief review of observational assessment, and the operational definitions used in this study; (b) a description of instrument (SBRS) development, including target behavior selection, design, coding technique, participant description and training; (c) videotape development, with rationale, subject description, taping and editing procedures; (d) the data collection, with a description of the pilot study, and procedure; and (e) a review of data analysis techniques.
Observational Assessment of Social Skills

The development of the social skills assessment technique used in this study was based on the following principles:

1. Observation in the natural setting represents a direct method of assessing social skills. Direct systematic observation of children's behavior provides baseline data for both identification of problematic behaviors, and a behavioral sample against which post-intervention measures may be compared to assess treatment effects (Hops & Greenwood, 1984).

2. Designing observational systems includes identification of target behavior using clear, concise definitions of the behaviors of interest (Kazdin, 1985).

3. Target behaviors are selected for intervention based on empirical evidence of their relationship to the construct (Hersen & Bellack, 1985).

4. For observational purposes, target behaviors are organized at two levels; molar response classes, and the specific (molecular) observable behaviors representative of the response class.

5. Observational assessment requires a recording protocol. Systems used to record behaviors will vary according to setting and the goal of the observation. Selection of the proper recording system depends on the
sophistication of and level of training provided the observers.

Operational Definitions

**Behavioral Category:** Molar level social skills on the SBRS derived from White and Watts' (1973) list of competent preschoolers' social behaviors.

**Center Based Program:** A centrally located special education delivery model to which children are transported on a scheduled basis. In PPI programming, the teacher is the primary educator within this service delivery model.

**Home Trainer:** PPI teachers assigned to provide services to homebound children through the training of the child's parents.

**Intermediate School District (ISD):** An administrative unit composed of constituent school districts (approximating county boundaries), existing to centralize funding and organization of specific services such as special and vocational education, or media and material centers.

**Participants:** Those teachers (21) who served as subjects in the observational coding exercises of the SBRS in this study.

**Preprimary Impaired (PPI):** Children with handicapping conditions through age five who qualify for special education services under the State of Michigan's
Administrative Rules for Special Education, R 340.1711 (Appendix A).

**Preschool Children:** Children age three to five, not enrolled in the public school.

**Rural Districts:** Intermediate school districts without a city of 35,000 or more.

**Specific Response:** Response categories at the molecular level that provide observable examples of a behavioral category on the SBRS.

**Social Behavior Recording Sheet (SBRS):** The observational instrument used in the study to record social behaviors of preschoolers.

**Teacher Consultant:** A teacher with full approval as a teacher consultant, possessing a master's degree, three years of teaching experience, and demonstrated knowledge and competence in those areas delineated in Michigan Special Education Rule 340.1790 (Appendix B).

**Teachers of Preprimary Impaired Children:** Teachers fully approved by the State of Michigan to teach preprimary age handicapped children who possess a major or a minor or an endorsement in early childhood education and an endorsement to teach at least one area of special education.

**Urban Districts:** Districts containing at least one city whose population exceeds 35,000.
Videotaped Segment: The two-minute predetermined videotaped examples of the social interactions of an individual preschool child.

Instrument Development

The development of the observational recording instrument used in this study required: (a) the selection of target behaviors from an empirically based definition of social competence in preschoolers, (b) a translation of social competence into observable behavioral categories (social skills), and (c) the selection and development of a protocol and coding strategy for the recording of observed behaviors.

Selection of Target Behaviors

The definition of social competence in the preschool child varies with the researcher's conceptualization of the construct. Competence has been described in terms of peer acceptance, attractiveness, rate of interaction, or readiness for integration into the public schools. This study employed the definition of social competence described by White and Watts (1973). Their model envelopes many of those notions of the socially competent preschool child presented in Chapter II. Children representing all ethnic, socioeconomic, and residence types were evaluated regarding their ability to produce
favorable outcomes with the day-to-day problems faced by preschoolers. Through comparative analysis and discussion, the researchers reduced the original sample to include only the least and most competent children. A list of the social abilities that distinguished the two groups was isolated. "The resultant list of distinguishing abilities represents an observationally based differentiated description of what (p. 10)" White and Watts (1973) refer to as the socially competent preschool child. The list provides observable social skills (at a molar level) used as the target behaviors of this study. These social skills serve as general behavioral categories and include:

1. **The ability to get and maintain the attention of adults and peers.** Children use various strategies in order to gain the attention of others. They may move toward, stand, or sit near the individual with whom they wish to interact. Touching, calling to, telling something to, and showing something to all serve to initiate an interaction.

2. **The ability to use adults as resources.** Children are able to make use of an adult to obtain something by means of a verbal request or demand or a physical demonstration of need. The resources they seek may be instrumental (information, assistance, food) or emotional (comfort or reassurance). Children may demonstrate their
need by declaring what they want, making a request or demand, gesturing, acting out or pointing.

3. The ability to express hostility and affection toward adults and peers. Children express hostility and affection through verbal and physical means. They make friendly statements such as "I like you," "You're nice," or by hugging. Likewise, hostility may be expressed through statement such as "I hate you," "You're bad," or by hitting or physically resisting.

4. The ability to lead and follow peers. Children can assume control in peer-related activities (e.g., to give suggestions, to orient and direct, or to set oneself up as a model for imitation). The behaviors also include the ability to follow the lead and suggestions of peers.

5. The ability to compete with peers. Children can show interpersonal competition. At the preschool level, this generally takes the form of competition for equipment or for an adult's attention.

6. The willingness to praise oneself and/or show pride in one's accomplishments. Children show pride in something they have created, or in something they own or possess at the moment. It may also be pride in something they have done or are in the process of doing. This may be expressed either through statements, noises, or physical gestures.
7. **The willingness to involve oneself in adult role-playing behaviors or otherwise express the desire to grow up.** Children express this ability by acting out typical adult behaviors or making adult-like statements. They may also make direct statements related to when they grow up what they are going to be.

Each of the social abilities described by White and Watts (1973) represent the molar level behavioral categories included in the instrument used in this study (see Appendix F). These behavioral categories may be expressed in observable terms through a variety of strategies. The strategies serve as the specific molecular responses children employ to accomplish the seven social behaviors listed above. The corresponding responses related to each behavioral category were derived from the literature and from practitioners.

White and Watts (1973) collected 1,100 observational protocols on the children isolated for final assessment of competence. From these protocols, examples of specific strategies for each behavioral category were offered. Strain (1983), Hops and Greenwood (1984), and Johnson and Mandell (1988) described related preschool social responses that served as further examples of the molecular level responses used in the study of skills.

The specific responses provided by White and Watts (1973) were based on observations and evaluations of
children "free from gross pathology." So that the instrument would include the social behaviors of all children, responses unique to handicapped children were solicited from practitioners. Four individuals approved by the State of Michigan to teach preprimary impaired (PPI) children, and currently employed in that capacity, reviewed the behavioral categories and lists of corresponding responses. They were asked to include under each behavioral category any specific response that would be unique to handicapped preschoolers, based on their teaching experience. Their suggestions were incorporated into the lists of specific responses.

In summary, target behaviors for the social skills assessment instrument (SBRS) included the molar level behavioral categories and a list of observable response strategies for each. The response list for each behavioral category represents the most commonly occurring behavioral response possibilities resulting from situational analysis (Goldfried & D'Zurrilla, 1969). A response list for each behavioral category used in this study included:

1. **Getting and Maintaining Attention**
   (a) verbalizes, calls to
   (b) moves toward, stands/sits near
   (c) physically touches
   (d) tells something to
(e) shows off
(f) shows something to
(g) facial change of expression
(h) acts-out, misbehaves, disturbs or disrupts

2. Using Adults as Resources
(a) seeks information, explanation, or confirmation
(b) seeks judgment in a peer dispute
(c) seeks assistance with clothing, food or equipment
(d) seeks comfort or reassurance

3. Expressing Affection
(a) makes a friendly comment
(b) smiles or makes other nonverbal expression
(c) makes a friendly gesture such as sharing or including a peer in an activity
(d) expression of physical affection

4. Expressing Hostility
(a) verbal rejection
(b) facial expression
(c) physical hostility such as hitting, throwing, spitting, etc.
(d) throwing a tantrum
(e) resisting adult direction, noncompliance
(f) withdrawing, pouting
(g) self-destructive behavior
(h) rejection of physical affection

5. Self-Praise/Pride in Product
   (a) expression of pride in product or creation
       either verbally or physically
   (b) expression of pride in action or attribute

6. Adult Role Play
   (a) dresses like an adult
   (b) plays an adult role
   (c) expresses a desire to grow up through
       statement
   (d) imitates an adult action or statement
   (e) uses purposeful immature language or role

7. Leading and Following Peers
   (a) gives direction, suggests, orients
   (b) models for peer imitation
   (c) follows peers' direction
   (d) verbally supports a peer's statement
   (e) follows peer(s) around
   (f) joins peer or group in activity
   (g) resists, ignores, or refuses peers' direction
   (h) imitates peers

8. Competing with Peers
   (a) competes for an adult's attention
   (b) competes for equipment
(See Appendix D for the location of the behavioral categories and their corresponding responses on the Social Behavior Recording Sheet.)

Social Behavior Recording Sheet: Protocol Design and Recording Technique

For purposes of this study, social competence in preschoolers was defined by those behavioral categories offered by White and Watts (1973), each of which may be displayed in the form of a corresponding specific response. The selection of representative specific responses was the result of situational analysis from the Harvard Preschool Project and input from current practitioners in special education preschool classrooms. For observation purposes, these were organized on a Social Behavior Recording Sheet (SBRS), which served as the primary data collection instrument for this study (Appendix E).

The design of the SBRS permits the observer to record interactions between the focal child (the child under observation), and peers and adults in the environment. Social skills define the effectiveness of the reciprocal interaction between an individual and those others in the environment. As such, the SBRS was designed to provide information regarding: (a) the frequency of interaction between the focal child and others; (b) the identity of the initiator of the interaction; (c) the
specific nature of the initiation; (d) the frequency and nature of the response by the focal child to each initiation; and (e) the purpose and function of the interaction.

The design, protocol, and coding procedure used in recording observed behaviors on the SBRS was the result of:

1. Examples from the literature which represented similar efforts at recording social interaction of preschool children through direct observation in the natural setting. Two behavioral recording devices were identified: The SAMPLE observation system (SOS) developed by Greenwood, Todd, Walker, and Hops (1978) for the identification of socially withdrawn preschoolers, and the behavior recording sheet developed by Strain (1983) for the identification of potential social skills targets with severely handicapped preschool children.

2. Working drafts were then developed and revised based on the outcome of repeated efforts to use the recording sheet under the conditions used with the SBRS: Observing two-minute videotaped segments of an individual child and recording observations.

The instrument revision process produced a form that was then used in the pilot study (described later in this discussion). The results of the pilot study also provided information used in the final revision. The
resulting form (SBRS) was the instrument used for the data collection in this study.

**Using the SBRS**

The SBRS (Appendix E) represents a coding/recording sheet used for a single two-minute observation. The horizontal rows, numbered 1 through 7 on the left-hand side of the sheet, are provided for recording separate interactions (a reciprocal social exchange or an attempt at an exchange). As many as seven distinct interactions may be recorded per two-minute observation on the SBRS.

The first vertical column on the left, designated "Getting and Maintaining Attention" (and the accompanying "Notes" column) is separated by a heavy black vertical line from the remaining columns on the right. The "Getting and Maintaining Attention" column represents the area in which the **initiation (I)** or **response (R)** of an individual interaction may be recorded. The columns to the immediate right (Behavioral Categories) provide the area for coding/recording the function of the interaction.

**Recording Sequence**

Using the SBRS to code and record the behavior of the focal child proceeds as follows:

1. As an observer identifies an interaction between the focal child and another individual in the
environment, the observer indicates the initiator of the interaction by placing the appropriate symbol under (I) in the column "Getting and Maintaining Attention." This symbol could be placed in row #1, if the interaction represented the first of the segment. If an individual (peer or adult) other than the focal child initiated the interaction, the observer indicates so by using the appropriate symbol. The observer then records the identity of the respondent by placing the appropriate symbol under the (R) in the column "Getting and Maintaining Attention." A lack of an observable response is recorded as (NR).

2. Following the recording of the coactors in the interaction, the observer refers to the corresponding Specific Responses immediately beneath the column "Getting and Maintaining Attention" (See Appendix F). These behavioral descriptors represent the precise nature (in observable terms) of the initiation (I) or response (R). Each response is coded with an uppercase letter in parentheses immediately to its left. The observer places the letter most representative of the specific response next to the symbol of the initiator or respondent for that interaction.

3. Located immediately to the right of "Getting and Maintaining Attention" is a column designated "Notes (see Appendix F). In the corresponding box for each
interaction under "Getting and Maintaining Attention," the observer records a 'key word(s)' that later serves to recall that particular interactional sequence.

4. The observer continues to record succeeding interactions in this manner until the two-minute observational segment ends.

5. Following the end of the two-minute observation period, the observer returns to the identified interactions (one through seven) and continues coding horizontally for function (by behavioral category), and their corresponding responses (see Appendix G). To complete this process, the observer returns to the "Notes" taken for each interaction and recalls the sequence of events. Here, a decision concerning the function and precise nature of that interaction is made. Scanning the Behavioral Categories across the top of the SBRS, the observer first determines the function or purpose of the interaction (e.g., Using Adults as Resources), and then consults the Specific Responses immediately below in that column. The responses are also designated by an upper case letter in parentheses to the immediate left. The observer then records the function of each interaction by placing the upper case letter from the appropriate specific response column, in the box corresponding to the selected behavioral category.
Upon completion of this sequence, the SBRS contains a coded record of all the focal child's interactions, and a description of their purpose and style, from the two-minute sample.

Appendix H provides three examples of completed SBRS's including a narrative description of the coded data. These examples each provide a description of the process and the contents of the corresponding two-minute segment. The observer must first decide "When" an interaction occurs, "How" it occurred, and then, following the end of the observational session, "Why" it occurred, with the aid of any "Notes" that might provide accurate recall of the sequence.

**Subject Training in the Use of the SBRS**

This discussion provides a description of the subjects involved in the study (participants) and the procedure utilized to train the subjects in the use of the SBRS.

**Participants**

Participants in the study included 21 females approved to teach Preprimary Impaired (PPI) children in the State of Michigan. Fifteen were currently serving as PPI teachers in center-based programs, five as home trainers, and five were employed as teacher consultants.
(see Operational Definitions on page 100). The group averaged 10.4 years in total teaching experience, 5.0 years as teachers of PPI children, with standard deviations of 5.9 and 3.4 respectively. Their overall experience ranged from 1.5 to 25 years.

For full approval as a teacher of PPI children in Michigan, an individual must be certified, have an endorsement in early childhood education, and an endorsement in at least one area of special education. Participants in the study included seven who teach the speech and language impaired (SLI), eight who teach mentally impaired (MI), four endorsed to teach the physically or health impaired (POHI), three who teach emotional impairments (EI), and one each who teach hearing impaired (HI), vision (VI), and learning disabilities (LD). Seven individuals possessed multiple endorsements. Participants represented 13 separate Intermediate School Districts (ISD), six urban and seven rural.

Of the 21 participants, none reported any previous experience with observational assessment techniques measuring social/emotional development. Reported assessment experience in social behavior included: Burkes Behavior Checklist, the social/emotional subsections of the Brigance and Vineland, the Hawaii Early Learning Profile (HELP), and an assessment instrument originating
from the Institute for the Study of Mental Retardation and Related Disorders (ISMRRD).

Training

The participants in this study underwent a 90-minute training session in the use of the SBRS. The training contained three sections: (a) a brief description of the data collection activity, (b) a presentation of the SBRS instrument and an explanation of its processes, and (c) five practice segments.

Each training session began with a brief and concise description of precisely what the participants were about to do. Participants were told that:

1. They were participating in an attempt to provide some evidence to support the use of behavioral assessment techniques by teachers of handicapped preschoolers.

2. Following a 90-minute training session, participants would view 10 two-minute videotaped segments of various preschool children going about their day. While viewing these tapes, they would record what they observed, based on prior information and training.

3. The observation would be particularly concerned with the nature of children's interactions with their peers and the adults in their school.

Following this description, a sample two-minute videotape segment was shown to the participants. This
sample provided the participants with: (a) experience with the nature of the sound and technical quality, (b) an idea of the nature and length of a two-minute segment, and (c) the extent to which they would need to maintain concentration.

Presentation

The presentation of the instrument and its use was organized around a three-step decision-making process. In the observation of each videotaped segment, the participants made three decisions: When a social interaction occurred between the targeted child and peers or adults, How that interaction occurred, and Why the interaction took place.

"Interaction" was defined as a social exchange, a reciprocal event in which someone initiates and (usually) someone responds. Participants were given the following guidelines for the identification of an interaction:

1. Apply a global definition to interaction. Rather than attempting to record every exchange or the minutiae involved in the sequence of a social interaction, focus interest on the initiation of and response to interaction, as well as the specific nature of the skills applied for this purpose.

2. Interactions may be verbal, nonverbal, or
physical, or may result entirely from proximity. They may be extended or quite brief.

3. Following the initiation of an interaction, consider that exchange as continuous, despite any pauses in conversation. When the actors in the exchange change or the purpose of the interaction changes significantly, consider those separate interactions.

Following the definition of "interaction," participants were reshow the initial two-minute videotaped segment. Participants were guided through the sequence of events and prompted to point out any "interaction" they observed. When an interaction was identified, the investigator solicited suggestions as to any parameters the participant used in identifying that particular exchange as a separate interaction. Portions of the videotape were replayed as needed to secure consensus understanding.

Each participant received a packet of 15 SBRS's. An overhead transparency, containing only the first left-hand column, "Getting and Maintaining Attention" (see Appendix F) was projected. The location of and proper symbols for recording the occurrence of an interaction was identified using the preceding videotaped segment as an example.

The second step in the three-step decision-making process concerned How the initiation and response
occurred. Specific Responses, immediately below the section for recording the occurrence of an interaction, were then presented (see Appendix G). Potential specific responses included under each behavioral category were reviewed and discussed. A videotaped example of each response was shown to the participants. The initial videotaped segment was then reviewed a third time. Here, participants were asked to determine (as the tape was paused), first, how the exchange was initiated or how the focal child responded to an initiation in terms of specific responses and, second, how they would indicate the coded response based on the choices immediately beneath the first column. As participants proceeded through the videotaped segment, coded examples were provided with an overhead transparency.

Finally, each participant was required to determine Why an interaction occurred. "Why," in this case, suggests a degree of subjectivity inconsistent with the observable aspects of this process. "Why" was selected as the term for its convenience and ease of recall. In actuality, it represents the function and nature of the interactions that occur. An understanding of "Why" in the use of the SBRS was clarified for the participants through a step-wise explanation. First, if the purpose of social behavior is to influence the behavior of others in the environment (Eisler & Frederikson, 1980), "Why" must be
translated in observable terms. Second, White and Watts (1973) provided the behavioral categories defining preschool social competence and many of the corresponding observable specific responses. Finally, coded information provided by "Why" illustrates more of the qualitative nature of the child's social skills.

In training the participants to determine "Why" a behavior occurred (categorizing its purpose), each behavioral category was defined and reviewed, as were all of the specific response possibilities. Videotaped examples of each behavioral category and corresponding specific responses were provided. As participants determined specific responses, they were encouraged to suggest "key" words that would aid their recall of the behavioral sequence in the videotaped segments. "Notes" were defined as the word or phrases that provide stimulus for remembering important aspects of particular interactions.

Practice

Practice in the use of the SBRS began with a short review and a description of the process:

1. Using the SBRS requires the observer to watch a two-minute videotaped segment of a preschool child and record the child's social interactions using a three-step decision-making process: When-How-Why?
2. The recording process is conducted by coding and recording the "When" and the "How" during the course of the observation. "Why" is determined immediately following the completion of the two-minute observation, and is supported through the use of (a) 'key' word(s) recorded under the "Notes" section.

The actual practice session in the use of the SBRS included four sample two-minute segments identical to the rest of the videotapes used for data collection. In the course of practicing the observation/recording task, the participants sequentially assumed greater independence in providing the coded information for each sample segment, progressing from directed group practice, stopping the tape as needed, to completely independent continuous recording. The four practice segments proceeded in this manner:

**Practice Segment #1.** Following the identification of the focal child, the investigator ran the videotaped segment, stopping the tape at each point of interaction. With the guidance of the investigator, the participants decided on the appropriate symbol and its location on the SBRS, identifying the coactors in the interaction. Recording for Segment #1 proceeded in this fashion through the end of the two-minute tape. Each interaction was then reviewed by the entire group for purposes of determining the exact behavioral categories and their specific
responses. Discussion continued until consensus was reached on the coded information for that segment.

Practice Segment #2. During the second practice segment, the investigator again stopped the tape at the point where an interaction occurred. This time, however, the participants independently determined who initiated/responded and "How" it occurred. This process continued throughout the second segment. The tape remained paused until each participant had coded the interaction. When the tape ended, the investigator guided a discussion as to the identity of the coactors in the sequence of interactions and nature of the specific responses in each case. As a group, the participants discussed the coding of the behavioral categories addressing the purpose (Why) of each interaction. The tape was rerun and participants verbally identified the interactions as they occurred. If requested, the tape was stopped and questions were addressed.

Practice Segment #3. For the third practice segment, the investigator ran the videotape used initially in the presentation of the SBRS. This was the fourth time the participants had viewed this particular segment. This tape was run without interruption. Participants were asked to record its events as it progressed. Time was given, following the end of the tape, to complete the

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coding of the behavioral categories. When all of the participants had completed coding the segment, a group discussion was conducted to identify the number and nature of each interaction. The tape was rerun, and with accompanying discussion the nature and purpose of each interaction was reviewed. Questions were addressed until consensus was reached.

Practice Segment #4. The final taped segment required the participants independently to observe and score the entire segment without interruption. Segment #4 was an entirely new segment, unfamiliar to the participants. It was emphasized that the final segment stimulated actual data collection conditions, and as such, the participants should refrain from comments during the observation and coding of the segment. When all participants had completed coding the segment, a discussion followed concerning the number and nature of the interactions presented in this segment. The taped segment was rerun and reviewed. Comments were encouraged to eliminate any misinterpretations.

Following the final practice videotaped segment, a very brief synopsis of the training was presented including the: (a) three-step decision-making process for observation; (b) definition of "interaction;" (c) coding procedure and sequence; and (d) use of the "Notes" to reconstruct interactions.
All remaining questions were addressed regarding the process and SBRS prior to the beginning of the data collection.

Videotape Development

It was necessary to develop the instrument (SBRS) and videotape simultaneously. During this process, both tape and instrument were revised to reflect the latest changes in each. Information gathered during the actual videotaping of the preschool children influenced several aspects of the SBRS including the length of observation, the number of possible interactions per two-minute period, and the sequence of coding involved in the recording of behavior.

The discussion of the development of the videotape will include: (a) a rationale for the use of videotape in simulating live, on-site observations; (b) a description of the sites and preschool subjects used in the videotape; (c) a review of the taping procedures; and (d) a description of the editing process involved in the construction of the videotape used in this study.

Using Videotape in the Analysis of Observational Techniques

The technology provided by the hand-held videotape recorder has been assimilated into all aspects of behavioral assessment. Videotape is currently used to
collect data, train observers, teach clients appropriate skills, and determine the concurrent validity of non-observational assessment (Mash & Terdal, 1984; Wine & Smye, 1981).

This study used videotaped examples of preschool children's social behavior both to train participants in the use of an observational behavior assessment technique, and to collect data measuring the feasibility of having preschool teachers use such a technique.

The use of standardized videotaped examples to train observers has several advantages:

1. Videotape provides clear-cut examples of the behaviors of interest, the definitions of which remain consistent.

2. All observers can be trained together.

3. Observers can view samples of behavioral sequences in the actual environmental settings in which the data collection will occur.

4. Training can proceed through continuous review until a consensus concerning definition is reached among all observers. All of these advantages provide potential to increase the interobserver agreement (Wildman & Erickson, 1977).

Employing videotape in the data collection phase of this study likewise offered several advantages over
on-site collection. In the process of determining observer consistency, the use of videotape avoids:

1. The reactivity present in classroom observation sessions.
2. The inability to insure that all participants view the identical behaviors at the same precise moment under the same conditions.
3. The effects of time on the definition of behaviors.

Videotape provided this study with the necessary control over the consistency in the behaviors participants would observe. It assured the precise length of the observational period and that all participants were presented with the same type and level of environmental distraction. The use of videotape allowed the investigator to select behavioral examples, a priori, so that each behavioral category was represented, including those that would occur infrequently in real-life situations.

Videotaped examples of behavior do present disadvantages. First, the technical quality of each segment varied (particularly of the sound). Participants were advised not to code what they could not effectively interpret. Second, without the peripheral view of the actual setting or background knowledge of each child,
participants felt that important environmental and personal variables were absent.

The advantages in training and in consistency of sample behaviors far outweigh any issues of subtle technical difficulties. Once the preschoolers satisfied their curiosity with the camera and the investigator, the behaviors recorded could be considered as naturally occurring and valid (Asher & Hymel, 1981). For purposes of investigating the reliability with which teachers can use the technique required of the SBRS, consistency of presentation is the primary concern—the major advantage of videotape.

Sites and Subjects of the Videotape

Sites

The videotaped segments of the behavioral samples used both for training participants and for data collection were taped at two separate preschool sites. Both are privately owned preschool programs within the same midwestern urban community. They employ teachers endorsed in early childhood education (according to State of Michigan guidelines) and instructional aides. Site A serves children primarily from upper and middle class families, is well equipped, and maintains an adult-to-child ratio of approximately 1:10. Site A is located in a
well-kept middle-class neighborhood in a building designed for use as a school.

Children at Site B come from more diverse socioeconomic backgrounds. Site B accepts referrals from local agencies for children with potential behavioral problems and developmental delays. Equipment and other resources were less visibly abundant than in Site A. The adult-to-child ratio is also approximately 1:10. The school is located in the basement of a church and community service building in a deteriorating neighborhood.

Both preschool sites apply a fully developed preschool curriculum aimed at fostering all aspects of development and readiness skills. Children attend from one-half to a complete day, participating in directed activities or supervised play. During supervised play, teachers and aides actively engaged the children in discussion or joined in the children's play activities. Both sites reflect a firm but nurturing atmosphere.

Subjects

Subjects of the videotaped segments include three-to-five-year-old children attending the preschools described above. Of the approximately 40 children present at both sites during the taping sessions, six presented varying disabilities including behavioral problems,
hearing impairments, speech delay, and a genetic disorder. No child at either site was receiving special education services at the time of taping.

Prior to the initiation of taping at the preschools, a letter was distributed to the parents of all children who would be present during taping. The letter described: (a) the nature of the research; (b) the role their children would play in this research and how the taping would affect their child’s day; (c) the procedure for ensuring complete anonymity for all children; and (d) a request for their approval. From the group with parental permission, children were randomly selected for taping, based on their proximity to the investigator during taping and on their activity level.

The final training and data collection tape included 18 children. They were chosen based on the degree to which the taped segment demonstrated a particular predetermined behavioral category, or by how effectively it demonstrated a specific response for training purposes. Seven of the children appeared more than once. Twice as many children appeared from Site A than from Site B. The children were taped interacting under completely natural conditions; no prompting or prop setup for purposes of simulating interaction was employed. The final research tape, used for training and data collection, contained
vignettes of preschoolers freely interacting with others in their preschool under natural conditions.

Taping, Tape Construction, and the Editing Process

The construction of the research videotape included: (a) the compilation of large amounts of unedited examples of preschoolers' social interaction; (b) editing of the initial tape for specific examples of social skills; (c) validation of these examples as representative of the identified social skills; and (d) the construction of a final videotape that included taped segments for training and data collection.

Initial on-site taping was conducted to collect a sufficient amount and wide variety of unedited examples of the children engaged in all types of social activities. A video camcorder (Olympus VX-403-KU) with 1/2-inch videotape (3M, T120 Professional) was used for this purpose. A "shotgun" microphone was mounted on the camcorder to allow more directed sound reproduction. Gathering of the "raw" unedited tape (approximately 12 hours) proceeded as long as it was apparent that additional examples of specific social skills (behavioral categories) were needed.

The preschool children were initially curious about the presence of the investigator and the nature of the camera. Once questions were answered and curiosity
satisfied, activities and behaviors in the preschool quickly returned to normal. The presence of the investigator during subsequent taping sessions aroused little interest. This is due in part to the subjects’ ages; younger children habituate more quickly to the presence of an outside observer (Asher & Hymel, 1981). Moreover, it is not uncommon for many adults to pass through either of the preschools during the course of a day.

In collecting the unedited taped examples, individual children were followed for periods of two to five minutes in both directed activities and free play. Tape was collected without predetermined or targeted behavioral categories or specific social skills during the initial taping sessions. This tape simply represents several hours of individual preschoolers interacting freely in the preschool environment.

Following the collection of the initial unedited tape, the interactions presented on the tape were examined for the accuracy and clarity with which they represented specific examples of the behavioral categories presented on the SBRS. Several examples of each behavioral category were isolated by the researcher, developed into two-minute segments, and placed on a second tape. From this pool of edited, two-minute examples, specific segments were selected to represent each predetermined behavioral
category. A group of 10 edited segments were then placed on a third tape, the taped examples that would be used for the actual data collection in the study. Selection of individual two-minute segments for data collection was based upon: (a) the segment's unambiguous representation of the identified social skill (behavioral category), (b) the representation of each social skill (behavioral category) at least once in the data collection segments, and (c) the technical quality of the segment in terms of sound, visual clarity, and perspective. Editing was conducted on a Panasonic Videotape Editing Unit (including Controller, two 6500 recorders, and video color monitors).

The research videotape that resulted from this procedure was reviewed by an independent observer, a professor of special education specializing in assessment and early childhood education. The independent observer determined the accuracy with which individual segments portrayed the identified social skills (behavioral categories). Any ambiguity in interpretation or technical interference was noted. Simultaneously, the SBRS was reviewed by the independent observer concerning its use with the videotaped segments. The information and feedback gathered from these review sessions produced revisions in both the final tape and the SBRS.

Final tape construction included the addition of
tape segments for purposes of training the participants in
the use of the SBRS.

Training segments were selected to provide actual
videotaped examples of: (a) five separate types of
specific responses representing behaviors related to
either initiating or responding to an interaction (Getting
and Maintaining Attention), and (b) at least two separate
examples of Specific Responses representing the remaining
seven behavioral categories on the SBRS. These were
selected based on the clarity with which they represented
a specified response.

Practice segments were chosen from the second edited
tape that contained the pool of edited two-minute
segments. Selection of practice segments was based on
both clarity and the variety of behavioral categories they
represented. This would allow participants the
opportunity to observe each behavioral category several
times during training, prior to data collection. Practice
segments were only used for practice in the use of the
SBRS. The first three practice segments were arranged on
the final tape in order of difficulty defined by total
number of interactions.

The training and data collection tape consisted of
42 minutes of videotape, including: (a) 20 training
segments representing the various social skills
(Behavioral Categories and their Specific Responses),
which varied in length from 10 seconds to two minutes, (b) four two-minute practice segments, and (c) the 10 two-minute segments used for actual data collection. Tape for training and practice segments was selected from any initial unedited tape not used in one of the 10 two-minute collection segments.

Data Collection

Data collection for this study required the participants to observe and to record on the SBRS preschoolers' social skills presented in two-minute videotaped segments. This discussion will include a description of the pilot study and its impact, the data collection sessions, subjects, and procedure.

Pilot Study

Before the actual data collection began, a pilot study was conducted. The pilot study was designed to simulate the exact data collection procedure. The participants in the pilot study included five teachers from an urban school district, approved to teach PPI in the State of Michigan. All were currently employed in that capacity. These teachers averaged six years' experience as special education teachers and reported no prior experience in the use of observational behavior assessment techniques. In the course of the pilot study,
participants were: (a) introduced to the nature of this research and provided with a theoretical base for observational assessment, (b) trained in the use of the SBRS, and (c) guided through a simulation of actual recording of the interactions as they observed the videotape.

The introductory phase of the pilot study included a description of the study's theoretical basis. The discussion included the nature of behavioral assessment and the importance of accurate assessment to effective intervention. It also served to establish a definition of social competence for the preschooler. This phase lasted approximately 30 minutes.

Training of the pilot study participants in the use of the SBRS proceeded in the manner described previously, with several exceptions. The pilot study excluded many of the summary and review opportunities, and differed in the nature of the definitions and practice. The training session for the pilot study lasted approximately 60 minutes.

Observations of videotaped segments during the pilot study were conducted in a manner identical to the eventual data collection session. For purposes of providing feedback and reaction, however, discussion of the recording process and individual interpretations of specific segments was encouraged. Following each two-
minute segment, pilot participants completed the coding of the remaining categories and then offered suggestions and asked additional questions. This process provided important information for the design of the final data collection process.

The results of the pilot study led to the following revisions:

1. The introductory phase of the session was completely eliminated. With the exception of a very brief description of the task, theoretical explanations were offered only in response to direct questions.

2. The "Notes" column was located nearer the area provided for recording interactions (Getting and Maintaining Attention). A "No Response" (NR) was added to the specific responses under "Getting and Maintaining Attention." This section was also increased in size.

3. The definition of "interaction" was revised and given a greater role in the training information. Pilot participants initially attempted to record every reciprocal exchange—nearly an impossibility while simultaneously observing behavior. More specific videotaped examples were added to the training tape in response to the need for a clearer definition of "interaction." The definition of "interaction" was stressed more consistently throughout the training phase of actual data collection.
4. The use of open group discussion during the practice phase of training resulted from a need to engage the individuals with questions or misconceptions.

5. Use of the pilot form asked the observer to define a single behavioral category. It became apparent during the pilot study that interactions could serve more than one purpose, and that interpretations of that purpose could correctly take several forms. As a consequence, participants in the actual data collection were trained to consider these multiple interpretations, using as many behavioral categories to describe completely the interaction.

6. The sound quality on several of the videotaped segments used for data collection was distorted. Questions arose, during the pilot, as to what precisely the children had said. By returning to the original unedited tape, improvements were made in the sound quality through adjustments in the videotape editor.

Data Collection

The collection of the data for this study required the participants to observe and record social skills of preschoolers as they viewed individual children in two-minute segments on a videotape monitor. The study included 10 segments in all, requiring the participants to complete the sequence twice.
Sites

Preprimary impaired children represent a relatively small proportion of all the handicapped children served in any given school district. PPI teachers make up a small proportion of any district's special education staff. It was necessary, therefore, to contact PPI teachers across the State of Michigan to enlist a representative participant group. Twenty-five PPI teachers were recruited, primarily from school districts in western and central Michigan. Three regional data collection sites were established—north, central, and south. The northern site included seven participants, the central 11, and the southern seven. Each group met twice at the same site, with seven to 14 days between sessions. Due to illness and weather-related problems, the final participant groups included six at the northern, nine at the central, and six at the southern data collection site. Physically, the data collection sites were similar; all audiovisual equipment was identical. All participants were able to sit within a reasonable proximity to the videotape monitor (no more than eight-to-10 feet), and at a proper angle.

Procedure

Each participant met at the designated regional site twice during the course of the study. The initial session included an introduction, training, and practice
in the use of the SBRS, and data collection. The follow-
up session (to provide test/retest agreement) required
each individual to assess the identical 10 videotaped
segments observed in the first session. This retest
session consisted of a brief review of the instrument
(SBRS), two practice segments, and data collection. All
participants received the identical introduction,
training, and instructions. A written script was followed
in all sessions to insure the consistency of information
and training for each group.

At the initial session, participants were provided
with a written abstract of the study and asked to provide
a single page of demographic information (see Appendix I).
The training session that followed has been described in
detail, and is not repeated here.

Prior to the collection of data, participants were
asked to refrain from openly discussing or remarking on
the nature of the videotaped segments, either during the
data collection or between sessions #1 and #2. As the
videotape was shown, participants recorded their
observations for segments #1 through #10. They were
permitted as much time as was necessary to complete the
categorical coding following the end of the two-minute
segment. In general, follow-up coding required an
additional two to five minutes per segment. The entire
data collection procedure required approximately one hour,
and the initial session (including training) about two-and-one-half hours.

Follow-up retest sessions required less time than the initial meetings—generally about 90 minutes. Retest sessions were held seven to 14 days following the first meeting, depending on site availability and participant scheduling. Retests proceeded in this manner:

1. Participants were issued a packet of 12 SBRS’s and instructed to open to the first sheet.

2. A brief review of the coding procedure was provided.

3. A sample videotaped segment was shown, and paused at each point of interaction. As a group, participants discussed coding the segment.

4. A second sample videotaped segment was viewed without interruption as participants independently coded their observations.

5. Following the coding of the second practice segment, the group discussed the results of their observations interaction by interaction.

6. When all questions had been addressed, participants completed the retest data collection session by observing and coding the identical 10 videotaped segments they had responded to in the first session.
Data Analysis

To determine whether PPI teachers could reliably use direct observation in the measurement of preschooler's social skills, this study applied measures of agreement (proportion of agreement) to three areas: (a) accuracy, as measured by the proportional agreement of the participants' 10 coded observations to the investigator's template, (b) interobserver agreement, the proportion of agreement of each participant, across all 10 observations, with each of the other 20 participants, and (c) test/retest agreements, or the proportion of agreement between coded observations from session #1 and session #2 for each participant.

Agreement measures were derived from a formula which yields a proportion of agreement between the two comparative observational measures. The proportion of agreement was determined by the formula (Johnson & Bolstad, 1973):

Proportion of Agreement = Agreements
________________________
Disagreements & Agreements

Prior to the comparison of any two observations on the SBRS, the coded information for each videotaped segment was transcribed in this manner:
1. A code sheet was developed for each of the 10 videotaped segments (see Appendix J).

2. Along the vertical axis of the code sheet, all possible responses on the SBRS are listed by behavioral category, followed by the corresponding specific responses for that category. This list begins with "Initiates" and "Responds," and progresses down the left side of the code sheet to "Competing with Peers," 53 total code possibilities.

3. Across the top of the code sheet, observations were numbered 1 to 42 (21 observations x 2 sessions), and the 21 observers were lettered A to U. Each observer submitted two separate observations for each of the ten videotaped segments.

4. All observational data were transcribed to a master sheet (Appendix J). The first column, headed T, represents the researcher's transcribed data for that specific videotaped segment, referred to as the template.

5. Transcription of the codes for each segment from SRBS to the master sheet involved translation of the symbol and letter codes to frequencies for each possible response (53 possible observational choices along the left-hand margin on the master sheets).

For example, the coded SBRS in Appendix H (see page 193 for a narrative of the two-minute segment), was transcribed onto a master sheet seen in Appendix K, in

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column A. From the coded information on the SBRS, frequencies were sequentially recorded on the master sheet for that segment as follows:

1. The focal child responded once to a peer-initiated interaction, a 1 was placed in the row "responds."

2. The focal child initiated two separate interactions in this segment, a 2 was placed in "initiate."

3. A 1 was placed in the row reading "peer" related to the previous interactions in #1.

4. Among the specific responses related to HOW the interactions occurred in this segment, a 3 was placed in "verbalizes, calls to," a 2 in "shows to," and a 1 was placed in "acts out."

5. The behavioral categories for this segment translate into a 1 under "Using Adults as Resource," and within this, a 1 in "help." Additionally, the master sheet would read 1 in "Self-Praise," with a 1 for (P), "product" in this behavioral category; a 1 in "Expressing Hostility" and a corresponding 1 for "physical;" a 1 in "Leading and Following Peers" with a 1 (R) for "resists, refuses, ignores direction;" and under "Competing with Peers," a 1, then a 1 in "adult attention."

Each coded SBRS in the study (42 for each segment x 10 segments) was transcribed in this manner.
Once the frequencies were recorded, direct comparisons could be made: (a) between each observation and the template (accuracy), (b) between each individual’s transcribed data and every other participant’s data segment by segment (interobserver agreement), and (c) between each participant’s frequencies on the first observation of each segment with the second (test/retest agreement).

Accuracy

Accuracy, or agreement with the investigator’s template, provides information pertaining to effectiveness of the training in the use of the instrument, and how well the behaviors of interest have been defined for the participants. If the investigator successfully communicated the conceptual aspects of the instrument (SBRS) and its proper use, the participants and the investigator should be in high agreement as the nature of the observed segments. Accuracy, in this regard, is less a measure of correctness/incorrectness than of observer agreement between instrument developer and trained observers.

To assess accuracy, transcribed template frequencies were directly compared to each observation of that segment (42 observations x 10 segments). In each comparison, an "agreement" was counted for every behavioral category or
specific response that contained the identical frequency as the template for that response choice. For example, if the template indicated a 2 for "child initiates," an agreement would be registered only if the participant's box for "child initiates" contained a 2. Matching blank response boxes were considered agreements, an indication that neither the participant nor the investigator observed that response during the segment.

When all agreements were tallied in the comparison between template and participant for that segment, the sum was divided by the total agreements and disagreements, yielding a proportion of agreement for that column. After all 42 observations of that segment had produced a proportion of agreement, a mean proportion was calculated for that segment. All 10 segments were analyzed in this way; the final 10 agreement proportions were then averaged to produce an overall agreement proportion between investigator and participants (accuracy).

**Interobserver Agreement**

The hallmark of an effective direct observational technique is high interobserver agreement, an indication of the instrument's ability to provide the same information about behavior regardless of who uses it. Hartmann (1977) believed that interobserver agreements "reflect the adequacy of behavior definitions and the
thoroughness of observer training in using these definitions" (p. 105).

For purposes of this study, interobserver agreement was computed by comparing each participant's transcribed observations with every other participant's across all segments. In doing so, both observations of each segment were matched, from master sheets, against all other observations of that segment. This required 20 comparisons, for each of 10 segments, for two observations per segment, or 4,000 separate comparisons. Agreements were calculated in the same manner as "accuracy" agreements. Row and column mean proportions were calculated from the matrix of individual agreement proportions to compute an overall interobserver agreement proportion.

Test/Retest Agreement

As a final measure of agreement, a comparison was made for each participant between the first observation of each segment and the follow-up observation. Agreement between different observations of the same behavior, separated by time, can provide additional information regarding the enduring quality of the training and definition of the behaviors.

Overall test/retest agreements were calculated in the same way as the previous agreement measures. In
test/retest, or "intra-observer" agreement, each participant's transcribed data for the first observation was compared with the second observation for the same segment for that observer. Conducted across all 10 segments, a mean intra-rater agreement proportion was computed for each individual. All 21 proportions were then averaged to yield an overall test/retest agreement.

Segment Analysis

The 10 videotaped segments used in this study varied in several respects: (a) in the number of total interactions per segment, (b) in the nature and complexity of those interactions, and (c) in technical quality. Additionally, questions arise concerning the effect of time and experience in the accuracy of coding across the ten segments: How would earlier observations compare with later ones?

To address these questions, agreement proportions are calculated by segment (1 through 10) for all three areas of agreement (accuracy, interobserver, and test/retest). The proportion of agreement for each segment in all three areas was then compared to expose any dramatic differences across agreement measures from segment to segment.

If the intervening variables (those that may alter agreement proportion per segment across the three
measures) have an equivalent influence, one would anticipate proportions for each segment to be similar, regardless of the measure of agreement. An Analysis of Variance was conducted to investigate the presence or absence of any significant differences between the three agreement proportion means.

Finally, the relationship between the complexity (measured in terms of the number of interactions per two-minute segment) and the proportion of agreement for each of the three areas of agreement, was analyzed through Linear Regression.
CHAPTER IV

RESULTS

The purpose of this study was to determine the effectiveness with which teachers of preprimary impaired children can apply observational behavioral assessment of social skills. Effectiveness, in this context, is measured by the proportion of agreement attained by the participants across several measures. This chapter presents the results of the agreement measures considering:

1. The accuracy with which the participants were able to apply the observational technique.

2. The level of interobserver agreement obtained in assessing identical behavioral samples.

3. The test/retest agreement of consistency each participant attained in recording the observations.

4. A comparison of the agreement proportions and their relationship to the complexity of the individual videotaped segments.

Accuracy

Agreement proportions related to accuracy were determined through the comparison of each participant's
recorded frequencies for all variables (behavioral categories and their specific responses) to a template established by the investigator. Ten templates (one for each videotaped segment) were used to compare both observations (initial and follow-up) for all 21 participants. By comparing each observation (42 in number) to the template for that segment, an agreement proportion was calculated by dividing the number of agreements by total number of agreements plus disagreements. A mean agreement proportion was calculated for each videotaped segment. The resulting agreement proportions for accuracy by segment are presented in Table 1.

An overall accuracy agreement proportion for all 10 segments in the study was determined by calculating the mean of the segment accuracy agreements. An agreement proportion of .81 was obtained for the overall measure of accuracy for the study. Figure 1 provides a graphic representation of the agreement proportions for accuracy by segment.
The agreement proportions for accuracy across segments ranged from .72 (segment #2) to .91 (segment #8). Accuracy, or the agreement with template data, varied according to the total number of interactions occurring within the segment. The lowest agreement proportion for accuracy (.72) occurred in segment #2 which contained the greatest complexity—five separate interactions in a two-minute period. The opposite was also true; the highest level of accuracy (.91) was recorded during the
Figure 1. Accuracy Agreement Proportion by Segment

segment containing only a single observable interaction. Decreasing agreement proportions associated with the increasing complexity of the observed sequences is a phenomenon consistent with most direct observational assessment. A Pearson Product-Moment correlation between the total number of interactions per segment and the agreement proportion for that segment indicated an expected inverse relationship ($r = -.99$). Linear Regression Analysis of agreement proportions of accuracy related to the number of identified interactions further supports the apparent association of variation in
agreement proportion as influenced by the complexity of the segment (Table 2). The Coefficient of Determination (R = .98) in this analysis indicates that 98% of the variance in the accuracy agreement proportions by segment may be explained by the number of interactions in that segment.

Results of accuracy measures indicate a very high level of agreement between the participants and the template established for the videotaped examples. Given the unfamiliarity of the technique to the participants and the time limitation, 81% accuracy indicates potential for the technique.

Interobserver Agreement

Interobserver agreement represents the level of concurrence among the participants on the recorded observations across all 10 segments. Calculating the overall proportion of agreement between observers required a separate comparison of each participant's recorded observations against all other participants' observations on 20 segments; the initial and follow-up observations of 10 segments. These agreement proportions are recorded on a matrix in Appendix L. The final interobserver agreement proportion represents a mean calculated by including all 20 vertical proportions on the matrix, A through U for the 21 participants. Interobserver agreement for both
observations of the 10 segments (.82) indicated that participants concurred on the nature and substance of the social behaviors observed in the videotaped segments approximately 82% of the time.

Table 2

<table>
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<th>Segment</th>
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<th>Agreement Proportion</th>
<th>Projected Proportion</th>
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Mean # of Interactions = 3
Mean Agreement Proportion = .81
R = .98 at 8 Degrees of Freedom
### Table 3

Agreement Proportions: Interobserver

<table>
<thead>
<tr>
<th>Segment</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.80</td>
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<td>2</td>
<td>.78</td>
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<td>7</td>
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<td>8</td>
<td>.89</td>
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<tr>
<td>9</td>
<td>.87</td>
</tr>
<tr>
<td>10</td>
<td>.80</td>
</tr>
</tbody>
</table>

Mean Agreement Proportion

.85 Interobserver

The relationship between the complexity of the segment, in terms of total interactions, and the proportional level of agreement is consistent with previous accuracy measures. A Pearson Product Moment correlation between agreement and interactional frequency measured $r = .88$ (Table 4). Prediction in the variance of agreement for each segment may be explained 77% of the time by the variance in the number of interactions in the segment (Coefficient of Determination $R = .77$, Table 4).
Figure 2. Interobserver Agreement Proportion by Segment

While criteria for acceptable levels of interobserver agreement have not been universally adopted, agreement proportions of 80% or higher have been used as levels of acceptability related to treatment intervention. The levels attained in this investigation suggest a potential for accurately determining intervention targets for social skills training.
Table 4
Regression: Interobserver Agreement

<table>
<thead>
<tr>
<th>Segment</th>
<th>Interactions</th>
<th>Agreement Proportion</th>
<th>Projected Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>.80</td>
<td>.82</td>
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<tr>
<td>2</td>
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<td>.77</td>
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</tr>
<tr>
<td>10</td>
<td>4</td>
<td>.80</td>
<td>.79</td>
</tr>
</tbody>
</table>

Mean # of Interactions = 3
Mean Agreement Proportion = .82
R = .78 at 8 Degrees of Freedom

Test/Retest Agreement

Following a one-to-two-week delay, each participant observed and recorded the social skills presented on the videotaped segments a second time. A comparison of the results of the follow-up session with the initial observational data permitted a measure of test/retest or "intraobserver" agreement proportion—the consistency of the participants' interpretations of the identical social
behaviors presented in the videotaped segments. Direct comparisons of transcribed observational data on each of the 10 segments for sessions #1 and #2 produced an agreement proportion for each individual segment and a mean intrarater agreement proportion for that specific participant. Agreement proportions by segment and by individual participant are shown in Tables 5 and 6. A mean agreement proportion was calculated from all 21 individual agreement proportions resulting in a test/retest agreement equal to (.84). The participants' assessment of the social skills observed in the second session was in agreement with their initial assessment at a level of 84% (Graph of agreement proportion by segment in Figure 3).

The variability in the test/retest agreement proportions by segment was predictably influenced by the complexity of the segments observed. The level of agreement between the first and second observation of the two-minute segments was inversely related to the number of interactions presented in that segment. Pearson Product Moment correlation between complexity and segment agreement proportions equaled (r = -.91). From a prediction standpoint, Linear Regression Analysis revealed that 83% of the variance in agreement could be explained by the variance in the number of interaction sequences per segment (r = .83), as seen in Table 7.
Table 5

Agreement Proportions: Test/Retest

<table>
<thead>
<tr>
<th>Segment</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
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<tr>
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<tr>
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<td>9</td>
<td>.89</td>
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<tr>
<td>10</td>
<td>.81</td>
</tr>
</tbody>
</table>

Mean Agreement Proportion

.81 Test/Retest

Test/retest agreement proportions of 83% provide an indication of the consistency with which teachers evaluate the identical behaviors during separate observations. The agreement attests to their understanding of the definitions and protocol in the use of the technique, and supports the efficacy of the training.
Table 6

Test/Retest Agreement Proportions by Participant

<table>
<thead>
<tr>
<th>Participant</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
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<tr>
<td>B</td>
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<tr>
<td>C</td>
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<td>D</td>
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<td>E</td>
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<td>F</td>
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<td>G</td>
<td>.89</td>
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<tr>
<td>H</td>
<td>.79</td>
</tr>
<tr>
<td>I</td>
<td>.81</td>
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<tr>
<td>J</td>
<td>.83</td>
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<tr>
<td>K</td>
<td>.84</td>
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<td>L</td>
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<td>Q</td>
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<td>R</td>
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<td>S</td>
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<tr>
<td>T</td>
<td>.86</td>
</tr>
<tr>
<td>U</td>
<td>.85</td>
</tr>
</tbody>
</table>

Mean Test/Retest Agreement Proportion by Participant = .84

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Figure 3. Test/Retest Agreement Proportion by Segment

Summary

Three measures of proportional agreement (Accuracy, Interobserver Agreement, and Test/Retest Agreement) were selected to provide a determination of the accuracy and consistency with which teachers of preprimary impaired children could assess the social skills of children through direct observation. Participants concurred with the investigator on the occurrence and nature of the social behaviors at an 81% rate, agreed with each other 82% of the time, and were consistent within repeated...
Table 7
Regression: Test/Retest Agreement

<table>
<thead>
<tr>
<th>Segment</th>
<th>Interactions</th>
<th>Agreement Proportion</th>
<th>Projected Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0.81</td>
<td>0.84</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>0.80</td>
<td>0.78</td>
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<tr>
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<td>4</td>
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<tr>
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<td>0.84</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>0.81</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Mean # of Interactions = 3
Mean Agreement Proportion = 0.84
R = 0.83 at 8 Degrees of Freedom

observations 84% of the time. Proportions by segment for all three agreement measures can be seen in Table 8. Figure 4 provides a graphic representation of all three measures' rates of agreement by videotaped segment.
Table 8

Agreement Proportion by Segment Complexity

<table>
<thead>
<tr>
<th>Interactions</th>
<th>Accuracy</th>
<th>Interobserver</th>
<th>Test/Retest</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Seq.#8)</td>
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<td>.91</td>
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<td>2 (Seq.#7)</td>
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<td>3 (Seq.#1)</td>
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<tr>
<td>3 (Seq.#4)</td>
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<tr>
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<td>4 (Seq.#6)</td>
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<td>.77</td>
</tr>
<tr>
<td>4 (Seq.#10)</td>
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<td>.80</td>
<td>.81</td>
<td>.79</td>
</tr>
<tr>
<td>5 (Seq.#2)</td>
<td>.72</td>
<td>.78</td>
<td>.80</td>
<td>.76</td>
</tr>
</tbody>
</table>

Means         | .81      | .82           | .84         |      |

The variance in the agreement proportions for each segment (from .71 to .92) can be attributed (average R = .86) to the number of interactional sequences per segment. The greater the complexity of the segment, the lower the agreement proportion (Table 8). Linear Regression Analyses of this relationship provided evidence to describe the precise levels of predictability of agreement based on the frequency of interaction: Accuracy R = .98; Interobserver
Figure 4. Composite Agreement Proportions by Segment

Agreement R = .77; Test/Retest Agreement R = .83. Graphic representation of this relationship between agreement proportions and frequency of interaction are presented in Figures 5, 6, and 7 respectively.

The levels of agreement attained in this investigation strongly suggest that teachers of handicapped preschool children can accurately and
consistently use an observational behavior assessment technique to measure social skills of children in the school setting. Agreement proportions of accuracy and consistency exceeding 80% indicate that PPI teachers definitely have the ability to apply such techniques.

**Figure 5.** Accuracy Agreement Proportion by # of Interaction
Figure 6. Interobserver Agreement Proportion by # of Interaction
Figure 7. Test/Retest Agreement Proportion by # of Interaction
CHAPTER V

DISCUSSION

To bring the results of this investigation into perspective and provide an overview of its possible implications, this chapter will: (a) summarize the problem and purpose of this investigation, (b) review the assumptions and limitations of the investigation as they apply to teachers of preprimary impaired children (PPI) and the development of a social skills assessment technique, (c) offer several conclusions, and (d) present possible implications suggested by outcomes of this investigation.

Given the lack of adequate social skills exhibited by handicapped children (Bryant & Budd, 1984; Gresham, 1981b), and the potential personal, academic, and long-term adjustment problems this presents (Cartledge & Milburn, 1978; Cowen et al., 1973; Strain et al., 1976; Wahler, 1976), professionals have recognized the need to begin social skills training in special education programs at the preschool level (Gresham, 1981b). The effectiveness of any social skills training program, however, is defined by the quality of the assessment technique used to identify the child's behavioral deficits.
Behavioral assessment, which identifies and measures both responses and the variables that control those responses, provides the functional utility required of a comprehensive social skills training program (Nelson & Hayes, 1985). When used by the student's teacher, behavioral assessment offers both a means of target identification and an opportunity to measure the impact of intervention (Hops, 1981). Of the variety of behavioral assessment techniques used to measure social skills, direct observation in the natural setting presents the most promise in directly merging assessment and intervention in the classroom setting. If properly designed to provide data for decision-making at the level of expertise (Hops & Greenwood, 1984), direct observational assessment by the teacher offers these advantages: (a) operationally defined behaviors, (b) opportunities for repeated measure, (c) evaluation of intervention techniques, (d) reduction of the reactive changes in the child's behavior during assessment, and (e) reduced cost (Gresham, 1981a; Hay, Nelson, & Hay, 1977, 1980).

Preschool handicapped children could realize many enduring social and emotional benefits from a comprehensive intervention program that addressed their need for social skills training (Gresham, 1981b, 1982a, 1982b; Gurianick & Groom, 1985; Odom & McConnell, 1985;
Odom & Strain, 1984). The intervention program designed for such training must include an assessment strategy that is applicable and practical in the PPI classroom. This investigation attempted to provide some evidence that PPI teachers can adequately assess the social skills needs of preschool children.

Assumptions and Limitations

This investigation included a number of assumptions and limitations.

It was assumed that the videotaped segments used in the measurement of PPI teachers' assessment skills represented a sample of preschool social behavior very closely approximating observation in the natural setting. Videotape is widely used in training observers and providing concurrent validity for nondirect assessment procedures. It was also assumed that the videotaped behaviors were free of reactive behavior changes due to the presence of the video camera.

The use of videotaped examples of social behavior for assessment purposes presented two limitations. First, the quality of the sound was less consistent than might be anticipated in an actual classroom setting. Second, the absence of peripheral vision, an inescapable aspect of videotape, may exclude important environmental variables.
affecting the child's behavior and thus influencing assessment outcomes.

It was assumed that the behaviors and responses present on the Social Behavior Recording Sheet (SBRS) adequately represented the range of social skills found within the preschool classroom. Final behavioral categories were derived both from previous research in preschool social competency and from input from practicing PPI teachers to insure the inclusion of behaviors specific to the various developmental levels and handicapping conditions.

It was assumed that the two-minute observation was adequate in length to provide a measure of continuous observational ability on behalf of the participants. While observational assessment takes several forms, the "event within interval" format used in this study is generally discussed in terms of adequate sample of behavior, rather than adequate measure of assessor's ability. All participants ultimately provided a 40-minute sample of their assessment skills: Two minutes by 10 segments by two trials.

It was assumed that the PPI teachers participating in this study represented the population of teachers who work with handicapped preschool children. PPI teachers from every region of the lower peninsula of Michigan were contacted by mail enlisting their participation. The
participants in the study were those who responded to the inquiry. The characteristics of the final participants reflected a diverse group in terms of geography and experience.

The investigation was limited by the fact that the preschool subjects of the videotaped behaviors were nonhandicapped. These children may not have adequately represented the population of children with whom the participants are most experienced. The developmental levels and behavioral skills exhibited in the videotaped segments may represent social competence not generally seen in the PPI classroom. Social competence, however, is defined by a set of skills that produce positive outcomes for the child in interactive situations. There is no prerequisite regarding the physical or intellectual nature of the child possessing these skills. This investigation measured the degree to which the teachers could observe and record the component skills of preschool social competence. As the results indicate, the PPI teachers were quite capable of accurate and consistent observation of well-defined behaviors independent of the focal child's specific characteristics.

It was assumed that the final protocol and procedure of the SBRS represented an adequate measure of the participants' abilities to use observational assessment of social skills. The design of the SBRS was based on
several observational systems previously and successfully applied to behavioral research of preschool children, both handicapped and nonhandicapped. Additionally, verification of the SBRS's content and procedure was provided by an assessment expert and a pilot study.

The accepted means of measure the usefulness of an observational assessment technique is interobserver agreement. However, a limitation of this or any investigation of observer agreement is the current lack of criteria for establishing acceptable levels of interobserver agreement. Alessi and Kaye (1983) offer a "rule of thumb," establishing 80% as a level required for intervention and 70% as adequate for identification.

Conclusions

This investigation attempted to determine whether the practitioner in the classroom for preschool handicapped children could use effectively an observational behavioral assessment technique to measure social skills. Effectiveness was defined in terms of agreement measured in proportions: Agreement with the investigator (accuracy), with each other (interobserver), and with themselves (test/retest). Across all three measures, participants attained very high agreement proportions.

The results of this investigation indicate that teachers of handicapped preschoolers can accurately and
consistently observe and record the social skills of children in the classroom setting. The levels of agreement attained provide strong evidence in support of using the teacher as a participant observer in the measurement of social skills.

Participants underwent a total of only 90 minutes of training to use a technique that was almost entirely foreign. If such high interobserver agreement and accuracy rates can be achieved with brief training, expanded training and practice could potentially provide more consistent and highly functional observations.

The variability in the agreement proportions across videotaped segments was not temporally related. In general, agreement proportions could be expected to improve or increase as participants became familiar with the procedure. Instead, variability in the agreement proportions across segments was very closely related to the complexity of the segments. This may imply that the behavioral definitions and training procedures were effectively implemented, and that practitioners can use this technique with relative accuracy. Being limited only by the complexity of the interaction.

The agreement proportions for accuracy were derived from comparisons with the investigator's assessment of the identical videotaped segments. The investigator's template, used for comparison, resulted from analyses that
included unlimited time, the use of a videotape editor, and selected predetermined examples. The participants, in contrast, observed and assessed the unfamiliar segments in just two minutes.

Even within the most complex segments, participants maintained high agreement proportions on all three measures. The participants' ability to attain these agreement measures under the more challenging observational conditions provides evidence of the teachers' abilities to use the technique with children exhibiting a range of interactive skill—from the withdrawn, nonverbal child to the most socially interactive.

The interobserver and test/retest agreements described in this study suggest that the target behaviors were clearly defined. When individual observers describe identical behaviors at such high rates of agreement, they are reflecting a level of understanding of operational definition, as well as the effectiveness of training. It is possible to surmise, under these conditions, that the behavioral categories from White's and Watts' (1973) definition of social competence have been effectively described and adapted to this observational format.
Implications and Recommendations

The results of this investigation provide support for the continued development of a direct observational social skills assessment technique to be used in the PPI classroom. The potential effectiveness of any direct observational assessment procedure is determined by the level of agreement between independent observers. The consistency and accuracy with which participants applied the technique in this study serves as further evidence that a teacher-directed observational assessment of social skills has promise.

Based on the results, the following implications and recommendations are offered:

1. The ultimate purpose of this investigation was to establish a basis upon which a social skills assessment/intervention program for PPI children could be developed. As the initial phase in this project, this study was to measure the effectiveness with which the participant observer (PPI teacher) could use such a technique. Given the results, the second phase, validation of the technique in the classroom, can proceed with the knowledge that the group targeted for eventual use of the program has the ability to apply the fundamental assessment techniques. Following validation, the social skills training curriculum associated with the behavioral categories on the SBRS can then be developed.
2. The use of the assessment technique described in this study has the potential to contribute to the limited knowledge concerning the social skills needs of particular handicapping conditions and developmental levels. Gresham (1981b, 1982a) believed a major weakness in social skills training for the handicapped included the lack of evidence concerning which children would likely respond to which method. As practitioners amass such information through effective assessment, training programs can evolve that more precisely address individual needs.

3. While handicapped preschoolers are to be the eventual beneficiaries of the study, the application of the technique described in this study has potential for use with all preschool children. The definition of social competence used in this investigation originated from research limited to nonhandicapped children age three to five who were functioning successfully. The social behaviors that described these children served as a standard against which other children could be measured in order to identify any specific need for improved social skill. Many children of preschool age not currently receiving special education services are no less at risk for the negative academic and personal outcomes associated with the absence of adequate social skills. The technique examined in this study could provide effective programming for all preschool children lacking social competence.
The results of this investigation affirmatively answer the question of whether an observational assessment technique for social skills can at once: (a) allow PPI teachers to target and assess social behaviors crucial to the development of their students; (b) provide data at a level that parallels the teacher's expertise and meets the requirements for effective intervention; (c) require a minimum amount of training and practice; and (d) be as unobtrusive to the daily operation of the classroom as possible. Further research, aimed at validating this process in the classroom setting, is clearly indicated. Such validation would represent the second phase of a project that will eventually establish an assessment/intervention curriculum designed to meet the social skills needs of handicapped preschoolers.
Appendix A

"Preprimary Impaired" as defined, determined by Michigan's Administrative Rules for Special Education, R 340.1711
"Preprimary Impaired" defined; determination.

Rule 11. (1) "Preprimary impaired" means a child through 5 years of age whose primary impairment cannot be differentiated through existing criteria within R 340.1703 to R 340.1710 or R 340.1713 to R 340.1715 and who manifests an impairment in 1 or more areas of development equal to or greater than 1/2 of the expected development for chronological age, as measured by more than 1 developmental scale which cannot be resolved by medical or nutritional intervention. This definition shall not preclude identification of a child through existing criteria within P 340.1703 to R 340.1710 or R 340.1713 to R 340.1715.

(2) A determination of impairment shall be based upon a comprehensive evaluation by a multidisciplinary evaluation team.

(3) A determination of impairment shall not be based solely on behaviors relating to environmental, cultural, or economic differences.
Appendix B

Teacher consultants for handicapped persons; approval.
Michigan’s Administrative Rules for Special Education, R 340.1790
Rule 90. In addition to meeting all of the requirements of R 340.1782, a teacher consultant shall meet all of the following requirements for full approval by the state board of education or its designee:

(a) Possess a master's degree in education or a field related to special education.

(b) Recommendation to the department, by letter, by the employing superintendent, or his or her designee, for approval as a teacher consultant. In requesting approval, the superintendent or designee shall provide satisfactory evidence that the teacher has demonstrated knowledge and competence in all of the following areas:

(i) Interpersonal relations.
(ii) Consultation skills.
(iii) Specialized instructional methods.
(iv) Effective time and classroom management techniques.
(v) Educational diagnostic techniques.
(vi) Problem solving/conflict resolution techniques.
(vii) Team planning and implementation processes.
(viii) Organizational theory and group dynamics.

(c) Show evidence of a minimum of 3 years of satisfactory teaching experience, not less than 2 years of which shall be in teaching handicapped persons in a special education classroom.
Appendix C

Molar level Behavioral Categories included on the Social Behavior Recording Sheet (SBRS)
<table>
<thead>
<tr>
<th>Behavioral Categories</th>
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</thead>
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<tr>
<td>Getting and Maintaining</td>
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</tr>
<tr>
<td>Attention (I)</td>
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</tr>
<tr>
<td>(R)</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>Using Adults as Resources</td>
<td></td>
</tr>
<tr>
<td>Expressing Affection</td>
<td></td>
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<tr>
<td>Expressing Hostility</td>
<td></td>
</tr>
<tr>
<td>Self-Praise Pride in Product</td>
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</tr>
<tr>
<td>Adult Role Play</td>
<td></td>
</tr>
<tr>
<td>Leading &amp; Following Peers</td>
<td></td>
</tr>
<tr>
<td>Competing with Peers</td>
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Appendix D

Behavioral Categories and the accompanying Specific Responses as they are located on the SBRS
<table>
<thead>
<tr>
<th>Behavioral Categories</th>
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</thead>
<tbody>
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<td>5</td>
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<td>6</td>
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<td>7</td>
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</table>

<table>
<thead>
<tr>
<th>Specific Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(V) Verbalizes, calls to</td>
</tr>
<tr>
<td>(M) Moves toward, stands or sits near</td>
</tr>
<tr>
<td>(P) Physically touches</td>
</tr>
<tr>
<td>(T) Tells something to</td>
</tr>
<tr>
<td>(SO) Shows off</td>
</tr>
<tr>
<td>(S) Shows something to</td>
</tr>
<tr>
<td>(F) Facial change of expression</td>
</tr>
<tr>
<td>(A) Acts-out, misbehaves, disturbs or disrupts activity</td>
</tr>
<tr>
<td>(NR) No response</td>
</tr>
</tbody>
</table>

- Child △ - Adult X - Peer
Appendix E

Complete Social Behavior Recording Sheet (SBRS) used by participants for the observational data collection during two-minute videotaped segments.
<table>
<thead>
<tr>
<th>Setting</th>
<th>Date</th>
<th>Observer</th>
</tr>
</thead>
</table>

### Behavioral Categories

<table>
<thead>
<tr>
<th>Getting and Maintaining Attention</th>
<th>Notes</th>
<th>Using Adults as Resources</th>
<th>Expressing Affection</th>
<th>Expressing Hostility</th>
<th>Self-Praise Product</th>
<th>Adult Role Play</th>
<th>Leading &amp; Following Peers</th>
<th>Competing with Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I)</td>
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</tr>
</tbody>
</table>

### Specific Responses

<table>
<thead>
<tr>
<th>(V) Makes a friendly comment</th>
<th>(V) Verbal rejection</th>
<th>(P) Pride in product or creation</th>
<th>(D) Dresses like an adult</th>
<th>(D) Gives direction, suggests, orients</th>
<th>(E) compete for an adult's attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) Seeks, information, explanation, confirmation</td>
<td>(F) Facial expression</td>
<td>(R) Plays adult role</td>
<td>(D) Models for peer imitation</td>
<td>(M) Verbal support statement</td>
<td>(E) compete for equipment</td>
</tr>
<tr>
<td>(J) Judgement in peer dispute</td>
<td>(P) Physical hostility</td>
<td>(G) Expresses a desire to grow up</td>
<td>(S) Verbal support statement</td>
<td>(S) Follows peer's direction</td>
<td></td>
</tr>
<tr>
<td>(K) Smiles or other non-verbal expression</td>
<td>(T) Tantrums</td>
<td>(I) Imitates an adult action or statement</td>
<td>(P) Follows peer(s) around</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L) Helps with clothing, food or equipment</td>
<td>(R) Resists</td>
<td>(I) Joins peer or group in activity</td>
<td>(F) Resists, ignores or refuses direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(M) Shows off</td>
<td>(W) Withdraws</td>
<td>(J) Joins peer or group in activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N) Shows something to</td>
<td>(V) Verbal rejection</td>
<td>(D) Gives direction, suggests, orients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(O) Acts out, misbehaves, disturbs or disrupts activity</td>
<td>(P) Physical affection</td>
<td>(D) Dresses like an adult</td>
<td></td>
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<tr>
<td>(P) Facial change of expression</td>
<td>(C) Comfort or reassurance</td>
<td>(D) Dresses like an adult</td>
<td></td>
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<tr>
<td>(Q) Acts out, misbehaves, disturbs or disrupts activity</td>
<td>(R) Resists</td>
<td>(D) Dresses like an adult</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(NR) No response</td>
<td>(S) Verbal support statement</td>
<td>(D) Dresses like an adult</td>
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Appendix F

The location of interactional data collection on the SBRS titled "Getting and Maintaining Attention," with the accompanying "Notes" section
<table>
<thead>
<tr>
<th>Behavioral Categories</th>
<th>Using Adults as Resources</th>
<th>Expressing Affection</th>
<th>Expressing Hostility</th>
<th>Self-Praise Pride in Product</th>
<th>Adult Role Play</th>
<th>Leading &amp; Following Peers</th>
<th>Competing with Peers</th>
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- Child Δ- Adult X - Peer

<table>
<thead>
<tr>
<th>Actions</th>
<th>Description</th>
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<tbody>
<tr>
<td>(V)</td>
<td>Verbalizes, calls to</td>
</tr>
<tr>
<td>(M)</td>
<td>Moves toward, stands or sits near</td>
</tr>
<tr>
<td>(P)</td>
<td>Physically touches</td>
</tr>
<tr>
<td>(T)</td>
<td>Tells something to</td>
</tr>
<tr>
<td>(SO)</td>
<td>Shows off</td>
</tr>
<tr>
<td>(S)</td>
<td>Shows something to</td>
</tr>
<tr>
<td>(F)</td>
<td>Facial change of expression</td>
</tr>
<tr>
<td>(A)</td>
<td>Acts-out, misbehaves, disturbs or disrupts activity</td>
</tr>
<tr>
<td>(NR)</td>
<td>No response</td>
</tr>
</tbody>
</table>
Appendix G

The location of the remaining Behavioral Categories and their Specific Responses on the SBRS

192
# Social Behavior Recording Sheet

**Child's Name:**

**Setting:**

**Date:**

**Observer:**

## Behavioral Categories

<table>
<thead>
<tr>
<th>Using Adults as Resources</th>
<th>Expressing Affection</th>
<th>Expressing Hostility</th>
<th>Self Praise Pride in Product</th>
<th>Adult Role Play</th>
<th>Leading &amp; Following Peers</th>
<th>Competing with Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

## Specific Responses

| Seeks, Information Explanation Confirmation (I) | Makes a friendly comment (V) | Verbal rejection (V) | Prone in product or creation (P) | Dresses like an adult (D) | Gives direction, suggests, orient (D) | (A) compete for an adult's attention (A) |
| Judgement in peer dispute (J) | Smiles or other non-verbal (NV) | Facial expression (F) | Prone in action or attribute (A) | Expresses a desire to grow up (G) | Follows peer's direction (F) | (E) compete for equipment (E) |
| Help with clothing, food or equipment (H) | Makes a friendly gesture (G) | Physical hostility (P) | Pseudo product or creation (P) | Expresses an adult action or statement (I) | Verbalizes statement (S) | (J) joins peer or group in activity (J) |
| Comfort or Reassurance (C) | Physical affection (P) | Tantrums (T) | Improves immature language or role (IM) | Imitates an adult action or statement (R) | Follows peer(s) around (P) | (K) Resists, ignores or refuses direction (R) |
|                           |                      | Resists (R) |                              |                              |                          |                      |
|                           |                      | Withdraws (W) |                              |                              |                          |                      |
|                           |                      | Self-destructive (SD) |                              |                              |                          |                      |
|                           |                      | Rejection (RA) |                              |                              |                          |                      |

---

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Appendix H

Data from a sample two-minute observation and an accompanying narrative providing an example of the procedure for recorded observed social behavior
### Social Behavior Recording Sheet

**Child's Name** | **Setting** | **Date** | **Observer**
--- | --- | --- | ---

#### Behavioral Categories

<table>
<thead>
<tr>
<th>Getting and Maintaining Attention</th>
<th>Notes</th>
<th>Using Adults as Resources</th>
<th>Expressing Affection</th>
<th>Expressing Hostility</th>
<th>Self-Praise Pride in Product</th>
<th>Adult Role Play</th>
<th>Leading &amp; Following Peers</th>
<th>Competing with Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I)</td>
<td>(P)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>✓ ✓ ✓</td>
<td>△</td>
<td>Snowsuit</td>
<td>H</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>X ✓ ✓</td>
<td>✓ A</td>
<td>Blocks</td>
<td>✓</td>
<td>✓</td>
<td>R</td>
<td>E</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>✓ ✓ ✓</td>
<td>△</td>
<td>Painting</td>
<td></td>
<td>✓</td>
<td>P</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
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<td></td>
</tr>
</tbody>
</table>

**Specific Responses**

- Child: ✓
- Adult: △
- Peer: X

<table>
<thead>
<tr>
<th>(V) Verbalizes, calls to</th>
<th>(M) Moves toward, stands or sits near</th>
<th>(P) Physically touches</th>
</tr>
</thead>
<tbody>
<tr>
<td>(T) Tells something to</td>
<td>(SO) Shows off</td>
<td>(S) Shows something to</td>
</tr>
<tr>
<td>(F) Facial change of expression</td>
<td>(A) Acts-out, misbehaves, disturbs or disrupts activity</td>
<td>(NR) No response</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(I) Seeks, information</th>
<th>(J) Judgement in peer dispute</th>
<th>(H) Help with clothing, food or equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N) Smiles or other non-verbal</td>
<td>(G) Makes a friendly gesture</td>
<td>(P) Makes a friendly comment</td>
</tr>
<tr>
<td>(E) Verbal rejection</td>
<td>(F) Facial expression</td>
<td>(A) Verbal rejection or creation</td>
</tr>
<tr>
<td>(D) Makes a friendly gesture</td>
<td>(P) Physical hostility</td>
<td>(G) Makes a friendly gesture</td>
</tr>
<tr>
<td>(T) Tantrums</td>
<td>(R) Resists</td>
<td>(W) Withdraws</td>
</tr>
<tr>
<td>(V) Verbal affection</td>
<td>(P) Physical hostility</td>
<td>(SD) Self-destructive</td>
</tr>
<tr>
<td>(C) Comfort or Reassurance</td>
<td>(RA) Rejects physical affection</td>
<td>(I) Imitates peer’s statement</td>
</tr>
<tr>
<td>(RA) Repeatedly repeats</td>
<td>(IM) Purposeful immature language or role</td>
<td>(D) Dresses like an adult</td>
</tr>
<tr>
<td>(D) Gives direction, suggests, onset</td>
<td>(M) Models for peer imitation</td>
<td>(F) Follows peer’s direction</td>
</tr>
<tr>
<td>(S) Verbally supports statement</td>
<td>(P) Follows peer(s) around</td>
<td>(J) Joins peer or group in activity</td>
</tr>
<tr>
<td>(R) Resists, ignores or refuses direction</td>
<td>(I) Imitates peer(s)</td>
<td>(A) Compete for an adult’s attention</td>
</tr>
<tr>
<td>(E) Compete for equipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The following narrative provides a description of the process and contents of the corresponding 2 minute observational segment on the preceding page:

**Interaction #1** was initiated by the focal child as indicated by the ( ) in row 1 under "Getting and Maintaining Attention". Referring to the Specific Responses below, a (V) and an (s) accompanying the ( ) indicates that the child spoke or otherwise verbally (V) attempted to initiate the interaction while "showing something to" (S) the other individual. The ( ) under (R) "Responds" in row 1, indicates that the child initiated an interaction with an adult, who responded. (Coding the specific response of the 'respondent' was only required if the observer felt the response provided important information in understanding the sequence of events or their outcome). 

"Notes" in interaction #1, contains the word 'snowsuit'. The observer recalls that the initial interaction in this segment involved the focal child's attempt to get help removing the snowsuit. The child turned to the teacher, called the teacher's name and held out the front of the snowsuit, looking for help. From this sequence, the observer recorded an (E) in "Using Adults as Resources", indicating that the function of the first interaction was to "seek help with clothing, food, or equipment".

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Interaction #2 was initiated by a peer (X), as indicated in row #2. This interaction began with a (V) verbalization directed at the focal child, while the peer showed him something. The ( ) in row #2 under (R) in "Getting and Maintaining..." represents the focal child's response, in this instance by (A), "acting out, misbehaving, or disturbing or disrupting an activity". "Notes" in row #2 contains the words 'blocks'. This word represented a sequence where a peer approached the focal child with a set of blocks, offering to play with/share this activity with the focal child. The child under observation then snatched the block away and attempted to hit his peer, finally collecting the remaining blocks as the peer walked away. The corresponding behavioral categories in row #2 further code this sequence, providing information regarding its nature. Often, several categories are necessary to accurately describe the interactional sequence. Here, the focal child 'physically expressed hostility' (P), while "resisting, ignoring, or refusing direction" (K), his peer's attempt to initiate a play activity, (under Leading and Following Peers). Additionally, taking the blocks represented an example of "Competing with Peers", in this instance, for equipment (E).

Interaction #3 represents the focal child's attempt to initiate an interaction with the teacher. The child ( ) in row #3, "shows something to" and Verbalizes" in an attempt to interact with the adult ( ), who did not respond. "Notes", with the word painting, recalls an attempt by the child to
show the teacher (who was engaged in helping several other students), a painting. Shouting, "Look what I made!", the focal child forced his way into the circle of children being helped by the teacher. Coded behavioral categories in this instance, include "Self Praise/Pride in Product" (P), and "Competing with Peers", which is described as (A), 'competing for an adult's attention'.

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Appendix I

Information cover sheet for the initial data collection sessions, completed by each participant
Dear Participant,

Would you please answer the following questions regarding your current and professional status. The information will be used in the analysis of the data you will provide during the next couple of weeks.

Thanks again for your cooperation.

Stephen Barbus

1. Please list the areas you are currently endorsed/approved to teach.

2. How many years of teaching experience do you have, and in what areas?

3. What is your current position?

4. Are you currently or have you ever used an observational assessment procedure for measuring social-emotional development? If so, please describe.
Appendix J

Sample segment data transcription sheet including an example of treemplate frequency information related to that specific sample segment
<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>TEMPLATE</th>
<th>PARTICIPANT</th>
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</thead>
<tbody>
<tr>
<td>Respond</td>
<td>2</td>
<td>B</td>
</tr>
<tr>
<td>Initiate</td>
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<td>B</td>
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<tr>
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<td></td>
</tr>
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<td>2</td>
<td>B</td>
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<td>verbalizes</td>
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<tr>
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Appendix L

Interobserver agreement proportion matrix
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Appendix M

Literature review outline
April 13, 1988
LITERATURE REVIEW OUTLINE
April 13, 1988

I. Definition of Social Skills
A. Origin of Social Skills: Social Learning Theory
   1. Rotter, Bandura, and Mischel
B. Toward A Definition of Social Skills
   1. Terminology
   2. Definitional Categories
      a. All-Inclusive
      b. Adaptive Behavioral
      c. Performance
   3. Social Skills: A Behavioral Definition
      a. Libet and Lewinsohn
      b. Curran
      c. Foster and Ritchey
      d. Gresham
C. Definitional Issues and Assessment
   1. Content Versus Consequences
   2. Situational Specificity
   3. Overt Behaviors Versus Social Perception and Cognition
   4. Single Responses Versus Behavioral Sequences
   5. Social Skills Deficit Versus Performance Inhibition
D. Conclusion

II. Development of Social Skills in Children
A. Theoretical Basis of Social Skills Development
   1. Existing Theories of Social Development
      a. Stage Versus Social Learning Theorists
2. Social Learning Theory's Perspective
   a. Differences and Contributions

3. Interactional Components
4. Developmental Interactionism

B. Growth of Social Skills in Children
   1. Individual and Environmental Variables
   2. Infants, Toddlers, and Preschoolers
   3. Preschool Social Competence
   4. Social Skills Development and Handicapped Children

C. Language Acquisition and Social Skills Development
   1. Unified Development: Linguistic, Cognitive, Social
   2. Social Interaction and Language
   3. Language Acquisition and the Handicapped

D. Social Perception
   1. Reading the Environment
   2. Acquiring Social Perception
   3. Learning Problems and Social Perception

III. Behavioral Assessment of Social Skills

A. Behavioral Assessment
   1. Foundations, Definitions, and History

B. Comparison of Behavioral and Traditional Assessment
   1. Personality
   2. Test Items
   3. Interpretation of Responses
   4. Summary

C. Behavioral Assessment of Social Skills
   1. Selection/Diagnostic Procedures
   2. Procedures for Intervention/Therapy

D. Observational Assessment of Social Skills
1. General Issues

E. Reliability/Validity of Observational Systems
   1. Reliability
   2. Validity
   3. Generalizability

F. Observational Assessment of Handicapped Preschoolers
   1. Current Systems

G. Teachers as Participant Observers in Assessment

H. Behavioral Assessment and Social Skills Training
BIBLIOGRAPHY


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Sarason, B. R. (1981). The dimensions of social competence: Contributions from a variety of research areas. In J. Wine & M. Smye (Eds.), Social competence (pp. 100-122). New York: Guilford Press.


