Doctoral Dissertations 1896 - February 2014

1-1-1981

Preschoolers' understanding of and social behavior to handicapped classmates.

D. Fleet Hill

University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_1

PRESCHOOLERS' UNDERSTANDING OF AND SOCIAL

BEHAVIOR TO HANDICAPPED CLASSMATES

A Dissertation Presented

By

D. Fleet Hill

ii

PRESCHOOLERS' UNDERSTANDING OF AND SOCIAL

BEHAVIOR TO HANDICAPPED CLASSMATES

A Dissertation Presented

By

D. Fleet Hill

Approved as to style and content by:

Carolyn P Edwards

Carolyn P. Edwards, Chairperson

George E Forman

George E. Forman, Member

Robert S. Feld

Robert S. Feldman, Member

Swaminathan

Mario D. Fantini, Dean
School of Education

iii

involved. I especially appreciate the willingness of the children

to assist in the evolution of new knowledge that hopefully will

contribute to better understanding of social relations in mainstream

classrooms.

ABSTRACT

Preschoolers' Understanding of and Social Behavior

To Handicapped Classmates

September 1981

D. Fleet Hill, A.B., Randolph-Macon Woman's College

M.Ed., Boston College,

Ed.D., University of Massachusetts, Amherst

Directed by: Dr. Carolyn P. Edwards

This study was designed to explore the hypothesized existence of
a relationship between children's social understanding about handicapped
classmates and social behavior enacted in the presence of handicapped
classmates. Further hypotheses concerned the relationship of role taking
and IQ to measures of social understanding and forms of social behavior.
It was predicted that high level understanding, role taking and IQ would
correlate with forms of positive, peer-like behavior and that negative
social judgments about handicapped children, including an estimation of
the age of handicapped children, would be related to less frequent and
negative forms of social behavior.

Social understanding was defined as perceptions, thoughts,
classification schemes and inferences that concern other people. So-
cial understanding was assessed during a semi-structured interview in
which nonhandicapped children were individually shown pictures of five
handicapped classmates. The results of this interview were then

analyzed in relation to previously demonstrated social behaviors in-
volving handicapped target children and nonhandicapped subjects in a
mainstream classroom. Role taking was measured with a hiding/guessing
game which assessed a form of cognitive perspective taking in a com-
petitive situation. The Peabody Picture Vocabulary Test was used to
measure verbal IQ. Social behaviors were measured in naturalistic
observations and coded into 30 discrete behaviors.

In a sample of 13 preschoolers who participated in both the
interviews and enacted social behaviors to handicapped classmates, the
most frequent social behaviors were insulting, commanding actions,
assisting, and giving objects, comprising 55% of all behaviors.
Measures of social understanding (negative affect, age guess, role
taking) achieved statistical significance in relation to these be-
haviors. However, even stronger relationships were found between
these behaviors and the behaviors received from the handicapped chil-
dren. Interview levels, role taking scores, and certain behaviors
enacted and received were found to be related to the subjects' sex and
age.

Thus, it was concluded that the relationship of social under-
standing and social behavior was bidirectional in this study, with
the effects of immediate transactional social experiences being
stronger than the predispositions measured in the interview. Con-
clusions focused on the nature of preschoolers' understanding of
handicapped classmates, and the role of educational leadership in
supporting the development of more adequate understanding of dif-
ferent others.

TABLE OF CONTENTS

LIST OF TABLES

Table

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Unexamined Assumptions of Mainstreaming

Since 1976 in Massachusetts and since 1978 nationally the class-
room integration of handicapped children and nonhandicapped children
has been mandated by law (P.L. 94-142 nationally and Chapter 766,
Massachusetts' code). This legislation has been hailed by educational
policy analysts (Hobbs, 1975), social historians (Sarason & Doris,
1979) educators (Meisels, 1979; Bricker, 1978), handicapped advocates
(Kleinfield, 1979) and parents, as a significant milestone that will
equal the impact of the Supreme Court ruling in Brown v. Board of
Education, 1954, that opened segregated schools to all children,
regardless of race. The consequences of P.L. 94-142 are significant
in many aspects: judicial and legal, social and ethical (Blatt,
1966) and psychological and educational (Bricker, 1978; Karnes & Lee,
1979).

The term mainstreaming has become synonymous with the school based
integration of normal and handicapped children. According to Sarason
and Doris (1979) it is a policy and practice that, "seeks heterogeneity
in the classroom in order for children to perceive, understand and
tolerate diversity within their midst" (p. 9). In a larger sense
mainstreaming is intended to promote "normalization," the principle of

1

accepting and accommodating all persons with handicaps into all aspects of a society's structure and functions (Wolfensberger, 1972). The educational merits of the legislation rested primarily on efficacy studies that concluded separate classroom instruction for handicapped children was not necessarily associated with greater academic and social gains than integrated classroom placement (Cegelka & Tyler, 1970; Dunn, 1968).

Mainstreaming is a legally mandated educational policy that is based on unexamined assumptions. Implicit in the politically motivated guarantee of the right of all handicapped children to a full and integrated education is the assumption that there are positive social and educational benefits derived from this integration of handicapped and nonhandicapped children. Proponents of mainstreaming argue that handicapped children experience the positive aspects of observing more advanced peers and consequently expanding their own behavior repertoire, and of interacting with more appropriate models of social and educational behavior (Karnes & Lee, 1979). Ipsa and Matz (1978) express the optimism characteristic in newly hailed social policy in this manner:

> . . . while in individual cases integration may not be advisable, in many more cases the exposure of handicapped children to models of normal peer functioning could lead to gains in terms of social, cognitive, and motor skills. We were also optimistic that handicapped and nonhandicapped preschoolers would of their own accord, as well as with some teacher encouragement involve each other in their play and that their interactions would generally be positive in tone (p. 173).

It is further argued that nonhandicapped children experience significant benefits from mainstream classroom effects that include the development of increased understanding and sensitivity to individual differences and positive attitudinal changes towards handicapped children. Finally, for both nonhandicapped and handicapped children, it is held that the same degree, if not a greater degree of educational benefit is obtained in a mainstream setting (Karnes & Lee, 1979).

As is true with many popular educational innovations, mainstreaming was implemented without delaying for empirical and data based research that could support or refute its effectiveness (Allen, 1980). The result of this lack of research concerning all aspects of mainstreaming as an educational policy is that in practice mainstreaming has proceeded without guidelines other than the legal requirements and practical advice from practitioners.

Critics of mainstreaming suggest that these assumed benefits do not universally occur in all programs (Meisels, 1979; Zigler & Muenchow, 1979). Some educators have suggested that changes mandated by mainstreaming may shortchange some children, both nonhandicapped and handicapped (Scriven, 1976; Wynne, Ulfelder, & Dakoff, 1975). Ipsa and Matz (1978) cite concerns that,

> handicapped children will necessarily receive either a disproportionately greater or smaller amount of their teacher's attention, will be ostracized by their nonhandicapped peers, will be disruptive and serve as models of inappropriate behavior for nonhandicapped children and/ or will be frustrated by classroom demands they cannot possibly meet (p. 173).

Cautions are heard about "dumping" handicapped children onto unprepared

teachers. Parents and school administrators are wary of the effects of integrating handicapped children. School committees faced with budget caps, reduced federal reimbursement and rising costs are resistant to full funding as currently required. Perhaps as Sarason and Doris (1979) propose, the change thus far has been in the courts, not in public consciousness.

Research Suggests Minimal Spontaneous Child-Child Interaction. Despite reservations expressed above, most proponents of mainstreaming assume that the problems of financing, prejudice by teachers and parents and inexperience by regular teachers are surmountable. It is assumed that when administrative problems are dealt with, then the children involved will make mainstreaming work. However, recent naturalistic studies of the nature of spontaneous child-child interaction in early childhood mainstreamed settings report that nonhandicapped children do not frequently interact with their handicapped classmates in free play situations and that handicapped children generally play by themselves (Ray, 1974; Porter, Ramsey, Tremblay, Iaccobo & Crawley, 1978; Devoney, Guralnick & Rubin, 1974). Finding this reduced level of social interaction between handicapped and nonhandicapped children has led researchers to propose that only with appropriate teacher intervention does desirable social interaction occur (Karnes & Lee, 1980; Guralnick, 1978).

Therefore, current studies of child-child interaction in mainstream settings are pursuing the nature of teacher intervention that enhances desirable social interaction. Generally, intervention of two kinds are recommended: 1) using specific social play activities and materials;

and 2) increasing the social skills and play behavior repertoire of handicapped children (Guralnick, 1978). While the fruits of this effort are genuine and social interaction does increase with teacher implemented practices, some significant problems have not been resolved.

First, there is still no understanding of or explanation for the lack of spontaneous social interaction. Secondly, without continued teacher intervention, studies of cases in which social interaction did increase report that patterns of social interaction revert to pre-intervention modes. It is true that some handicapped children need training and prompting in social skills production, and that some handicapping conditions make typical social interactions difficult or impossible. Furthermore, it is true that good educational practices can promote more positive social interaction. But these teacher mediated interventions fail to address the other significant variable involved in child-child interactions between handicapped and non-handicapped children, the perspective of the nonhandicapped child.

The Perspective of the Nonhandicapped Child in Mainstreamed Settings.

While the debate over the treatment of reduced social interaction is certainly of interest to practitioners and scholars in the field of mainstreaming, it glosses over unexplored issues that are related to the phenomenon of low social interaction. These unexplored issues concern the special content of social interactions involving handi-capped children and the psychological roots for the low rate of social interaction.

Two small areas of work have explored the nature of this problem. This first area consists of anecdotal reports about nonhandicapped children's reactions to their handicapped classmates. Secondly, a brief but suggestive article by Thurman and Lewis (1979) considers children's response to <u>differences</u> as a basic psychological phenomenon and the possible cause of the low social interaction rates.

Anecdotal reports give hints about the content of children's reactions to and perception of handicapped peers. Some children consider their handicapped peers "babies" and therefore in need of assistance and nurturance. Teachers in mainstreamed settings report that many nonhandicapped children think of their handicapped classmates as younger than they actually are, even in cases in which a particular handicapped child was taller than other nonhandicapped children.

Certain types of handicaps appear to frighten children, and result in avoidance and/or aggressive behaviors. Some children are reported to conceptualize handicaps as punishment for misdeeds, or as temporary and contagious diseases (Stein, 1974). Adaptive equipment is considered desirable play material for imitation of handicapped children's behavior and a means of getting special attention. Some children apparently feel threatened by certain types of handicapped conditions and tend to exaggerate the opposite behavior they are threatened by. Thus, a child who feels frightened by a weak, floppy cerebral palsied child may show off in an overly strong way.

Stein's book About Handicaps (1974), provides a typical example of this cluster of behaviors. Matthew, an able bodied child, is fearful and threatened by his playmate, Joe, who has crooked legs and palsied walk. Matthew mockingly imitates Joe's walk and then exaggerates his own abilities to jump and run. Secretly he is fearful that his own crooked little toe will escalate into a deforming condition like Joe's legs, especially if he plays too near to Joe. Matthew hides his toe inside tall leather boots and affects a "strong man" stance and soldier identity. When Joe approaches him to try on Matthew's army hat, Matthew pushes him down.

Stein cautions the reader from an overly quick interpretation of Matthew's action as cruelty. Rather she views it as an outcome of Matthew's incomplete understanding and childhood logic, that is confirmed by tales and television. Notions of damage as punishment, badness as contagious, and behaviors of puffing up in defensive exaggeration of one's own powers, are all logical ways for a child to address fears of handicaps.

These observations correspond to suggestions from Thurman and Lewis (1979) about children's differential responses to different social objects. They cite evidence from infancy studies supporting early discrimination between self and others, and early recognition of physical and behavioral differences. Further, they urge that "the roots of prejudice and rejection of handicapped children may lie in the tendency to respond differentially to difference" (p. 468). Interventions, according to Thurman and Lewis, must not only modify

social interaction patterns and acceptance within integrated groups.
They assert that failure to directly address the differences between
handicapped and nonhandicapped children will only bring about
temporary changes in interaction patterns. Interventions should be
designed to stress the importance of diversity and individual
differences and should provide information about the origins of
differences.

Suggestions from social psychology literature about the social
construction of the meaning of handicapping conditions support the
observations of Thurman and Lewis. That is, some writers, especially
those with a strong advocacy position about the prejudicial treat-
ment of handicapped persons in our society, recognize that perceptions
of, attitudes about, and behavior directed to handicapped people,
reflect psychological tendencies to recoil from and discriminate
against dissimilar others (Goffman, 1963; Wolfensberger, 1972;
Gliedman & Roth, 1980; Kleinfield, 1979; Sarason & Doris, 1979).

The Purpose of this Study

This study considers the perspective of the preschool non-
handicapped child as the possible explanation for the reduced child-
child interaction observed in mainstreamed programs. At issue is
whether the avoidance of handicapped classmates by preschoolers is
an example of early prejudice and cultural norms, or whether it is
a developmental process that may be reinforced by cultural practices.
Further, if indeed there are developmental parameters that come into
play in this context of children who are "different," then what

specifically are these manifestations of social cognitive development? Finally, what is the relationship between social behavior in the context of handicapped children and social understanding of handicapped children by their nonhandicapped classmates?

In order to define and demonstrate the nature and degree of the relationship between social understanding and social behavior concerning handicapped classmates, four areas of inquiry are explored in this study. The first part of this study investigates the nature of young children's understanding of, concepts about, ideas and explanations for their familiar handicapped classmates. This question concerning what children think about their handicapped classmates focuses on what and how much of certain handicapping conditions children are aware of, whether handicapped children are considered similar or dissimilar peers to nonhandicapped children, what explanations children have for the origins of handicapping conditions, and what social judgments children make about their handicapped peers.

The second area of this study focuses on the nature and frequency of spontaneous social interaction between handicapped and nonhandicapped children in a mainstream classroom. What are the forms of more common social interaction in mainstreamed peer relations? What types of social interaction rarely or never occur between handicapped and nonhandicapped children? Are there special forms of social interaction unique to handicapped/nonhandicapped social interaction? Are the social interactions that do occur between handicapped and nonhandicapped children more typical of social relations between children and non-peers?

The third area of inquiry addressing the overall question of the relationship between understanding and behavior, concerns developmental issues. On the general level of development, the question is, does a measure of overall cognitive development offer any predictive power in explaining a given child's understanding of and behavior to handicapped classmates? At the specific level of development, the question is, does a measure of role taking ability provide a positive relation that might explain differences in children's understanding of and behavior to handicapped classmates?

Finally, the fourth area of this study considers some other variables that may be related to children's understanding and behavior to their handicapped classmates. Are variables such as gender, age, type of handicapping condition or other significant out of school experience with handicapped persons related in any degree to the level of social behavior observed or the nature and complexity of understanding expressed?

Significance of the Study. It is clear from teachers' concerns expressed in informal interviews, from the political perspective of handicapped advocates, and from the direction in which research is moving to assess the effectiveness of mainstreaming, that child-child interaction is of great interest to a number of different groups. Few, if any, studies have looked at the perspective of the non-handicapped child for any information regarding this issue.

While work in the area known as "social cognition" has proceeded to study various developmental processes such as role taking, perspective taking, moral reasoning, and social knowledge of

specified topics, this work is mostly of the experimental laboratory style. This study combines some experimental assessment of role taking, a topic of current interest in the social cognition field, a clinical interview assessment of understanding of handicapped peers and a concurrent naturalistic measure of social behavior with those same handicapped peers. As Shantz (1975) in her review of the state of social cognition literature suggests, "the relation between social cognition and interpersonal behavior may be one of the largest unexplored areas in developmental psychology today" (p. 46).

The value of this study for educators in mainstream settings is that it provides more explict information with which to make intervention decisions. Having knowledge about developmental factors related to the social behavior and understanding of handicapped classmates makes it more likely that educators will hold appropriate expectations for children in mainstream settings.

This project also bears on the political and educational issues raised by the mainstreaming legislation. Politically, it concerns the early manifestation of unequal and dissimilar treatment of a minority group by a majority group. It seeks to explore explanations that may have developmental origins, yet seem to be reinforced by our cultural norms.

Finally, this study explores one of mainstreaming's unexamined educational assumptions: that handicapped and nonhandicapped children will experience positive social effects in integrated settings. It may be that such is the nature of young children's thought about handicapping conditions (as well as other perceptually significant

physical differences) that what occurs spontaneously in social interactions is a logical expression of developmental processes concerning social understanding of _different_ others. If this is the case, then a revision of the assumptions regarding the social effects of mainstreaming may be called for.

Review of the Literature

Studies of Child-Child Interactions in Mainstreamed Settings. Ray (1974) studied an infant/toddler group, composed of 5 Down's syndrome children and 7 "nondelayed" children who were one year younger than the Down's syndrome children. He found that nonhandicapped children spent significantly more time with peers than did the delayed children, and that this difference increased significantly over the 3 month period of the study. As the nonhandicapped children were increasing their frequency of contact with other nondelayed peers and decreasing their contact with teachers, the handicapped children were increasing the amount of contact with teachers while maintaining their levels of peer contact. Ray also found that the delayed children exhibited fewer of all behavior items combined (actions, facial expression and speech) and fewer instances of object related play and nonverbal signals such as physical contact, pointing, waving and smiling. Ray attributed these findings of decreased frequency of interaction and length of contact between delayed and Down's syndrome infant/toddler age children to effects of verbal pre- requisites needed to initiate and maintain reciprocal social relations.

Porter et al. (1978) conducted an ethological study of the proximity between retarded and nonretarded children ranging in age from one and one half to five and one half years. Measures of inter-individual proximity, proximity preferences, frequencies of social interactions and peer preferences were recorded during half hour free play sessions in a laboratory play space with groups of four children at a time. The groups were composed of children who were closely matched in mental age, with at least one each from the larger sample of retarded and nonretarded. The data reveal a "consistent tendency for nonretarded target children to interact most frequently with other nonretarded children rather than with retarded peers" (p. 321). This preference of nonretarded children for developmentally similar peers was also found in measures of physical proximity and several categories of behavioral and vocal interactions. The authors suggested that the differential preferences of nonretarded versus retarded children for "similar" peers may be at least partially a function of the greater ability to discriminate by the nonretarded subjects. More explicitly, the authors suggested that just as with rhesus monkeys who prefer like reared conspecifics, (Pratt & Sackett, 1967) "the preferences of nonretarded children for nonretarded peers may be to some extent due to their avoidance of the dissimilar (i.e., retarded) peers" (p. 321).

Two related studies of integrated preschool classrooms were reported by Ipsa and Matz (1978) and Ipsa (1981). These studies examined social interactions among teachers, handicapped children and

nonhandicapped children in half day classrooms affiliated with the

High/Scope First Chance Preschool Program.[1] Demonstration classrooms

enrolled 10 nonhandicapped and 5 handicapped children with mild and

moderate conditions. Using time sampled observations of categories

of facial expression, types of social play (modified from Parten)

and reciprocal social behaviors, the first year study (Ipsa & Matz,

1978) found no difference on most variables for peer directed and

teacher directed behaviors. In the second year study, with some

overlap for almost half of the children and one of two teachers

(Ipsa, 1981), the nonhandicapped children in one class did selectively

interact more frequently with other nonhandicapped children when

engaging in more complex (associative) social play. Handicapped

children received more help and affection from peers, and were more

affectionate towards peers than nonhandicapped children were.

Teachers refused handicapped children's requests and corrected their

behavior more often, but they also gave them more help and more

affection than nonhandicapped children. Thus, from the first to the

second year there was more segregation on the part of the nonhandicapped

children.

Ipsa cites the limitations of the small sample size in

explaining the contradictory findings in the first and second year

study. She particularly noted the limitations of certain of the

---

[1]Programs designed to implement the "Cognitively Oriented
Curriculum" as represented in the Young Child in Action, A Manual for
Preschool Educators, M. Hohmann, B. Banet, and D. P. Weikart, 1979.

handicapping conditions as dampers to social interaction and the effects of the teacher's style and personality as possible determinants of the social behavior in mainstreamed classrooms.

These observational studies document frequency rates of selected categories of social behavior using time-sampling prodedures. Such methods give only hints of the nature of children's understanding of handicaps, and do not provide sufficient data to discuss the special character and content of social interaction between handicapped and nonhandicapped children. With the exception of the Ipsa and Matz (1978) study, the findings all indicate some significant differences between the frequency of social play between nonhandicapped children and handicapped and nonhandicapped children.

Studies of Interventions in Child-Child Interactions in Mainstreamed Settings. While there are few naturalistic studies of the spontaneous child-child interactions in mainstreamed programs, there have been numerous intervention studies designed to assess and remedy this unexplained problem of low spontaneous interaction. The range of effects that have been sought included: an increase in desirable types of play (from autistic-like, solitary play to associative and cooperative play); an increase in performance of desirable behaviors presumed to be functional in social interaction (verbalization, smiling, imitation, affection and object exchange); an increase in socially acceptable behavior (appropriate use of toys, motor behaviors, school-like behaviors); and a decrease in unacceptable behaviors (bizarre, withdrawn, or aggressive behaviors). Methods

of accomplishing these goals have ranged from direct conditioning (Cooke & Apolloni, 1978), contingent teacher reinforcement, prompting and encouragement (Norquist, 1978; Strain & Wiegerink, 1976; Strain & Timm, 1974), symbolic and live modeling (Keller & Carlson, 1974; O'Connor, 1969), and peer modeling, peer reinforcement and peer imitation (Guralnick, 1976; Fredericks, Baldwin, Grove, Moore, Riggs & Lyons, 1978; Norquist, 1978; Apolloni, Cooke & Cooke, 1977; Snyder, Apolloni & Cooke, 1977; Devoney, Guralnick & Rubin, 1974). Other studies have manipulated more general adult behavior (Shores, Hester & Strain, 1976) and specific curriculum activities (Strain & Wiegerink, 1976) assumed to relate to the quality and quantity of social interactions.

Training studies have recently been reviewed by several authors (Karnes & Lee, 1979; Guralnick, 1978; Allen, 1980) and will not be presented in detail here. The reviews noted the lack of generalized effects under non-treatment conditions but overall have applauded the efforts of these tightly designed studies. Allen (1980) concluded that the teacher in a mainstreamed setting played the most significant role in fostering and supporting social interactions, while Karnes and Lee (1979), and Guralnick (1978) urged consideration of peers as the most economic and effective agents available in a mainstream classroom to promote desirable social behavior by handicapped children.

The use of peers and teachers as therapeutic agents to remediate handicapped children's reduced or inappropriate social behavior

assumes that the problem reported by the naturalistic studies is one of a _deficit_ in the handicapped children themselves. Without a focus on nonhandicapped children's understanding and related behavior to handicapped classmates, behavioral increases in social play and social skills are merely short term, highly structured effects. Changing behavior without attention to underlying understanding on the part of the nonhandicapped children does not promote spontaneous peer initiated social interaction.

The present author does not wish such emphasis on children's understanding to be misinterpreted as a call for the cessation of training studies. Structured experiences and guidance are clearly necessary to relate social behavior with social understanding. This relationship is surely complex. As Piaget (1932/1965) suggests, the effects of understanding and behavior may be bidirectional. Not only can an increase or change in understanding affect behavior, but an increase or change in behavior (such as that learned in highly structured treatment programs) can affect social understanding.

Social Cognition: Knowledge of other Persons. The area of work known as social cognition is concerned with the organization of social relationships of young children. Edwards and Lewis (1979) define social cognition as the study of "children's representational schemas of the social world, schemas we hold guide children's own action and enable them to predict the behavior of others" (p. 246). Shantz's (1975) review of the burgeoning social cognition literature provides a rich source for approaching and organizing this field of work. She suggests three domains for consideration: 1) the develop-

ment of social inferences about other persons, 2) the relationship of social cognition to other cognitive abilities, and 3) the relationship of social cognition to social behavior. Other reviews by Chandler (1977) and Forbes (1978) sufficiently summarize this area of work, so that only the areas within social cognition that are relevant to this study will be presented here.

Role taking. The two aspects of social cognition that pertain to this study concern role taking and peer relations. Role taking is the term that many have used to describe the "growth of the cognitive skills that are required for a child to understand other people, their emotional states, their perspectives, and the differences between these perspectives and those held by the child himself or herself" (Forman, 1979, p. 168). Numerous procedures have been developed to measure types of role taking, some measuring role taking as physical perspective (Flavell, 1974), or as affective perspective (Borke, 1971; Rothenberg, 1970), or as cognitive perspective (Chandler, 1973, DeVries, 1970).

Work by John Flavell (1974) and his colleagues (Flavell, Botkin, Fry, Wright & Jarvis, 1968) illustrate the study of role taking as a problem in physical perspective. Conceptually related to early Piagetian ideas of egocentrism and moral judgment (Piaget, 1932/1965), Flavell et al.'s experiments on children's development of physical perspective have led him to suggest a stage-like progression during childhood from no awareness of another's perspective, to an awareness that another does see something different, to the ability to represent or describe the actual different sighting

that another has. DeVries (1970) used a game situation, especially suitable for a preschool sample, to measure role taking involving what the other is thinking. The experimenter hid a penny in one hand and the child tried to guess which hand the penny was in. The child's goal of finding the penny was helped by correctly inferring the experimenter's strategies or thoughts, and by recognizing that the experimenter, as an opponent, was trying to infer the child's thoughts. DeVries had the subjects guess for several trials and then hide the penny themselves for the experimenter to find. The 5 levels of role taking established by DeVries range from the lowest level in which the child has no awareness of the experimenter's perspective (shown by giving the penny instead of hiding it) to the highest level in which the child used both irregular guessing and hiding strategies, thereby indicating an awareness of the opponent's perspective (as a guesser and as a hider), by trying to out-think the opponent's thoughts and behavior. Such an increasingly more differentiated understanding of others' physical or cognitive per- spective from one's own, presumably is related to other forms of gradually more differentiated knowledge of others. Selman (1971) and Selman and Byrne (1974) have formulated a similar stage-like model of interpersonal inferences that focuses on more subjective attributes, such as other people's thoughts and intentions.

Developmentalists assume parallels between the development of social and physical knowledge, although the exact nature of this relationship is the subject of some controversy (Shantz, 1975; Chandler, 1977). A great deal of study has been put into specifying

what children think about other people; and just as is true of
knowledge of physical objects, people are initially conceived of and
known in terms of their surface appearances, possessions, and motor
behavior (Livesley & Bromley, 1973; Peevers & Secord, 1973; Flapan,
1968). Development of knowledge of others proceeds as a construction
of more underlying reality, whereby thoughts, values, beliefs,
feelings and intentions become the available sources of knowledge
about others. Many studies confirm that as children grow older they
use more psychological constructs to verbally describe others
(Chandler, 1977). It is only during the later preschool years,
however, that there is any evidence of the use of psychological
constructs to understand others (Gilbert, 1969) or to make self-
characterizations (Guardo & Bohan, 1971).

Role Taking and Other Abilities. Several studies have explored the
relationship between role taking, other social cognitive processes and
more general cognitive ability. Rubin's study (1977) found
chronological age the most predictive variable of role taking per-
formance. He used the Peabody Picture Vocabulary Test IQ and the
Matching Familiar Faces Test as marker variable indicators. When he
partialled out chronological age, there was only a correlation
averaging in the .10 range between role taking and marker variables.

Enright and Sutterfield (1979) studied the relationship
between vocabulary, social problem solving skills, social behavior
and moral judgment measures with first graders. Vocabulary and
social problem skills were not significantly related to outcomes on
moral judgment measures. Moral judgment development was significantly

related to competent social behavior. Their analysis suggests that the reciprocity, or taking account of others' needs, in higher levels of moral development, is a more important component to competent social behavior than either verbal ability or the ability to think of alternatives to social problems.

Chandler (1977), DeVries (1970) and Flavell et al. (1968) suggest that there is a relation between role taking skills and mental age or IQ, in studies employing broad samples. Selman (1976) and Chandler (1973) have studied role taking abilities and moral judgment in children in psychological treatment centers and among juvenile delinquents respectively. In both cases, role taking abilities and moral judgment levels were significantly below developmental expectations, as were other measures of social competence.

The relationship between social cognition, communication and social behavior among preschool children was explored in studies reported by Strayer, Lefebvre-Pinard, Bouffard-Bouchard and Rondeau (1980). This work is a comprehensive view of the overall relationships between social understanding and social behavior. In most cases they found no empirical demonstration of a significant relationship between social cognition (measured by a battery of socio-cognitive tasks designed to measure "simple decentration" or the inferential process with a single operation of sequentially focusing on two aspects of the situation) and appropriate dyadic communicative behavior or affiliative behavior observed in naturalistic settings. The authors are forced to conclude that their research does not

support the notion that "individuals who are more able to understand their social world should in some sense be more skillful in how they react to it" (p. 64). They suggest that different social situations require different forms of specific understanding and that current assessments of a child's social cognitive level gives only an index of a general capacity for understanding social relations. Such understanding may be only partially used in any given social situation.

Finally, some studies of social cognition have suggested that prosocial behaviors, such as cooperation, friendliness, helping, kindness and generosity, emerge and are strengthened by a child's ability to take the role of others (Shantz, 1975). Mussen and Eisenberg-Berg (1977) admit that the relationship varies according to situational factors, but hold that children with strong prosocial dispositions are "likely to be relatively self-confident and active children, advanced in moral reasoning as well as role taking skills and empathy" (p. 159).

Significance of Role Taking for Integrated Groups. During the preschool years, role taking abilities are beginning to emerge. There is rudimentary understanding that others can have different visual experiences and different communicative levels (Guralnick & Paul-Brown, 1977; Shatz & Gelman, 1973). The variety of differences among children in integrated groups would seem to promote the use of role taking processes, if one accepts the Piagetian position that ego-centric functioning decreases as a result of children's confrontation

with peers who differ in their wishes, perspectives, needs and thoughts. Shantz (1975) interprets this to mean that "peer interaction in general and peer conflict in particular is the necessary condition for role taking to emerge and stabilize" (p. 47). However, realistic expectations for preschoolers include awareness that typical children will not be aware of the true extent of the differences between themselves and their handicapped classmates.

Peer Relations Among Preschoolers. Studies of early peer relations (Goldman & Ross, 1978; Bronson, 1972; Mueller & Lucas, 1975; Mueller, 1979) demonstrate that complex coordinated interaction schemes and consistent rule governed play patterns are characteristics of emerging social relations in toddler age children. Preference for peers who are behaviorally and physically similar is common among preschoolers (Hartup, 1978). "Peerness" for Lewis and Rosenblum (1975) is a transitory state derived from shared interaction and common physical features. The essential components of a peer relationship are considered to be "overt functioning and interaction of individuals at comparable levels of complexity" (p. 5). Whiting and Whiting's (1975) cross-cultural research confirms that children's social interaction with peers is unlike their interactions with infants and adults, with sociable behavior, aggressiveness, and prosocial activity being the most frequent peer behaviors and dependency, nurturance and intimacy being the least frequent.

Edwards and Lewis (1979) discuss age, gender and familiarity as the three most significant and overt cues with which children

organize their social schemas. They studied age and social function and found that both significantly related to children's differentiated expectations for social objects. Of particular relevance to the interaction between handicapped and nonhandicapped children is their finding that infants were the least preferred social objects for preschool age subjects. Given that many preschool children appear to categorize their handicapped classmates as babies, it is likely that the behavior directed at these so-classified children will be that which the Whitings found to be most common with infants: nurturance, aggression, and prosocial teaching and helping. Thus, social relations between nonhandicapped and handicapped children may not be typical of peer relations.

Friendship Among Young Children. Friendship relations among children have been studied by Youniss and Volpe (1978), Selman and Selman (1979) and Rubin (1980). As with peer relations, the emphasis has been to describe the mutual, rule-governed co-construction of re-lationships based on functional equality and reciprocity. Friend-ships among toddlers seem to be based on behavioral similarity. Interviews with five and six year olds (Selman & Selman, 1979) about the nature of their friendships reveal that "friends are nice to one another, play together and share things" (p. 70). Their research, based on numerous semi-structured interviews, classifies stages of friendship. Stage 0, in 3 to 7 year olds, is termed "momentary playmateship." Friends are valued for material and physical attributes and defined by proximity. Stage 1, (in 4 to 9 year olds)

is termed "one way assistance" and refers to children's reports that a friend does what you want them to. Stage 2, in children 9 through 12, is called "two way fair weather cooperation". At this level, relations are reciprocal and take account of the other's perspective, but the basic purpose is still to serve separate self interests.

Asher, Oden and Gottman (1979) and Hartup (1975) discuss friendships as distinguished from popularity measures, but note that certain social skills correlated with peer acceptance. Skills of positive responsiveness, accurate communication, and expertness in some activity, characterize popular children who are chosen as friends by classmates. In cases in which children are judged "not-like-me", are physically unattractive (Asher, Oden & Gottman, 1979) and are socially unresponsive or unable to engage in peer type activities, it is unlikely that typical peer relations or friendship formation can occur.

Theoretical Considerations: Equilibration as a Model of Development. While attention has been given to what children think about others, as the studies reported above indicate, little is known about how children arrive at their conceptions of others and how these conceptions change over time. The Piagetian model of equilibration (Piaget, 1977) or conflict resolution, is proposed as a theoretical process that can explain development of physical-social knowledge over time. Furth's recent work (1980) and discussions by Forman (in press) and Cooney (1977) focus on applying equilibration to understand children's knowledge of social institutions, physical

events, and moral reasoning respectively.

The author has observed that for some children the process of being with and knowing a handicapped child changes over time. While the most frequent behavior to and understanding of handicapped classmates seems to reflect a categorization as a <u>not-like-me</u> social object, some children indicate another level of categorization. That is, there are examples of nonhandicapped children revising their initial perceptions and recategorizing a handicapped child as a <u>like-me</u> social object. This recategorization is usually based on the integration of newly discovered similarity between the handicapped and nonhandicapped child. But as Forman (in press) suggests, preschool children center on the opposite extremes rather than graduated degrees of a continuum. Thus, a recategorization as a <u>like-me</u> social object does acknowledge a genuine similarity, but often recognition of that is overgeneralized. A third and higher level of categorization of a handicapped child is as a simultaneously <u>somewhat-like-me</u> and <u>somewhat not-like-me</u> social object.

This movement from one level of categorization to another is postulated as an example of Piaget's model of equilibration or conflict resolution. Children who encounter experiences that are contrary to their expectations may grapple with the contradictions and consequently refine and redesign their ideas. The experience of a "cognitive disturbance" activates some children to search for a compensating explanation for the discrepancy between previously acceptable understanding and currently conflicting present evidence. This process has three possible consequences.

The first mode of compensation for a cognitive disturbance is to deny the merit of the discrepancy. This may occur in cases where the discrepancy with previous understanding is very great. For example, some preschool children are observed treating profoundly handicapped children without language and locomotion as if they were normal peers (Friedland, Meisels & Hersch, 1976) or by completely ignoring them as if they didn't exist.

Secondly, the child may acknowledge a discrepancy as a genuine conflict and attempt an explanation, but the explanation may be insufficient, illogical or incorrect. An example of the second mode of conflict resolution is the characterization of a handicapped peer as a "baby". When a child reaches a conclusion that this not-like-me other is really a baby, then the disturbance has temporarily ceased. A temporarily satisfying state of equilibrium is reached which is maintained until the child re-examines the observations and inferences he or she made and reconsiders the validity of the initial inferences (that child doesn't walk and talk, a baby doesn't walk and talk, therefore she's a baby).

Thirdly, a child may successfully equilibrate by constructing a higher level explanation that accounts for the discrepancy between observations and expectations. For example, a child may reject the previously acceptable explanation that a given handicapped child is a baby, by recognizing the handicapped child as a child (rather than baby) who happens to be physically limited by a handicapping condition. The nonhandicapped child has thus separated the babylike

similarities from physical disabilities and one's social identity

from exclusive focus on physical abilities.

Hypotheses

The purpose of this study was to determine whether there is a

relation between individual differences in social behavior and social

understanding with handicapped children at the preschool level. The

second purpose of the study was to investigate whether role taking

and/or IQ can predict social understanding or social behavior to

handicapped classmates. A final purpose was to explore the nature

of children's understanding of handicapped classmates and whether

the effects of age, gender or exceptional other experiences with

handicapped children was related to this understanding and/or

behavior.

Individual differences in social behavior were measured by

naturalistic observation of social behavior engaged in with selected

handicapped target children. Categories of social behavior were

chosen from the behavior systems proposed by Whiting and Whiting

(1975) which have been demonstrated as valid in numerous cross-

cultural settings. The specific social behaviors were derived from

Edwards, Jackson and Bonvillian (unpublished manuscript) and

represented typical peer interaction behavior.

Social understanding was measured in semi-structured clinical

interview, modeled on Piaget (1919/1972) and Furth (1980). This

measure was chosen because of its utility in exploring children's

ideas and mental frameworks that are presumed to guide their behavior.
Interview levels were determined; the total number of statements
and the percentage of these statements that were negative were
computed as a measure of negative judgments (Davidson, 1976). Role
taking was measured by a procedure developed by DeVries (1970), a
hiding/guessing game, which is considered to be an index of a child's
cognitive and competitive abilities to take the point of view of an
opponent in a strategy game. IQ was measured by the Peabody
Picture Vocabulary Test, which has been validated as a measure of
verbal intelligence.

Hypotheses. The relation between variables predicted in the present
study are summarized and discussed below:
Children with a high level of social understanding will engage in
high frequency of positive social interactions with handicapped
peers; Children with a low level of social understanding will engage
in low frequency of positive social interactions with handicapped
peers. The review of the literature has suggested that minimal
study has been conducted on the relation between social under-
standing and social conduct, particularly involving handicapped
others. While Shantz (1975) and Eisenberg-Berg and Mussen (1977)
suggest that positive social behavior is related to social cognition,
studies by Strayer, Lefebvre-Pinard, Bouffard-Bouchard and Rondeau
(1980) have not been able to demonstrate such a relationship. Research
on children's peer interactions indicates that age, similarity,
and reciprocity are components of peer interaction (Hartup, 1975),

and cross-cultural studies have found that peer behavior is unlike behavior directed at non-peers (Whiting & Whiting, 1975). Higher level understanding involving handicapped others involves the absence of incorrect inferences about the nature, cause and extent of handicapping conditions, and more accurate knowledge of individual differences among various handicapped children. Such understanding is presumed to be the basis for appropriate positive social behavior. Studies of social behaviors in mainstreamed preschool classrooms have found low frequency of peer-like interactions, with one important exception in which peer-like behavior was found between nonhandicapped and handicapped children.

Children who describe their handicapped classmates as younger than themselves will engage in more infrequent peer-like social behavior; children who describe their handicapped classmates' age more accurately will engage in more frequent peer-like social behavior.

Children with a more negative expression of affect toward handicapped classmates will engage in lower frequency negative social interactions with handicapped classmates. Children with a more positive expression of affect toward handicapped classmates will engage in more positive social interactions.

These two related hypotheses are based on the assumption that some components of a child's social understanding, specifically negative/positive affective expressions, and/or judgments about age, will relate to the type of social behavior exhibited to handicapped children, who were the topics of the interviews measuring social understanding.

Handicapped children who are judged with accuracy about their age (and therefore in an integrated preschool setting to be similar in age to the subjects, or at least not baby-aged, presumably will be treated with more peer-like behavior (defined by Whiting and Whiting (1975), and Hartup (1975) as sociable, aggressive and behaviorally reciprocal) than those who are not judged to be peer-like. Research by Edwards and Lewis (1979) indicating that infants are the least favored social object, the informal reports that many handicapped children consider similar aged handicapped children as babies, suggest this position.

Children with higher role taking ability will exhibit higher level understanding of handicapped children; Children with lower role taking ability will exhibit lower level understanding of handicapped children. Children's role taking abilities will be predictive of children's social behavior with handicapped classmates. The relationship of role taking abilities, defined as the skills required to understand other people, their emotional states, perspectives and differences from the self (Forman, 1979), to understanding is presumed to be significant, since conceptually role taking involves understanding others in reference to the self. Role taking and social behavior are presumed to be related in that social behavior and social understanding are hypothesized to be related. Specifically for role taking, a high level of role taking is presumed to be related to a high frequency of positive social behavior.

Children with lower level verbal IQ's will demonstrate lower level role taking abilities and lower level social understanding of handicapped classmates. Children with higher level verbal IQ's will demonstrate

higher level role taking and social understanding. DeVries (1970) found
low level psychometric ability to be related to role taking ability, but
in children with high level psychometric abilities, chronological age
surpassed psychometric ability in relation to role taking ability.
Rubin (1977) found little relationship between verbal IQ and DeVries'
role taking measure, when chronological age was partialled out. Thus,
this study may or may not support Rubin's finding.

Children who have experienced significant relationships with a handi-
capped family member will exhibit a higher level understanding of handi-
capped classmates, and a more positive expression of affect toward
handicapped classmates. It is assumed that the experience of living
with a handicapped family member will affect children's ability to know
a handicapped person by attributes other than the handicapping condi-
tion, and that such experience of knowing a handicapped person as a
sibling or a family member would develop in these children a special
ability to understand handicapped children in school settings.

Definition of Terms.

Handicapped child: a child who has a physical, mental, or emo-
tional disability and who has been identified and assessed by the school
system, placed in a program to receive planned services in accordance
with state and federal laws.

Nonhandicapped child: a child who has no identified or identi-
fiable condition or disability and who is not receiving any special
services from the school system.

Mainstreamed classroom: a school setting that includes handicapped

and nonhandicapped children in extended daily contact, with the percentage of handicapped children not to exceed 50% of enrollment.

Social interaction: a verbal or physical exchange between two or more children in which there is clear indication that at least one child acknowledges the presence of another.

Social understanding: perceptions, thoughts, classification schemes and inferences concerning other people.

Role taking: a process of modifying one's thoughts or actions to account for the existence, point of view or state of another person.

CHAPTER II

METHODS AND MATERIALS

Subjects

The sample consisted of 13 boys and 8 girls who comprised the total number of nonhandicapped children attending the program at which the data were collected. At the time of data collection the mean age of these children was 5 years and 0 months (range 4:1 to 6:7). For girls the mean age was 5 years 3 months, and for boys the mean age was 4 years and 10 months. The sample was drawn from a children's program that served physically disabled, multiply handicapped and nonhandicapped children of preschool and kindergarten age. The program was funded by the Massachusetts Department of Public Health and local school systems. There was no charge to families for any of its services. The program was located on the grounds of the Western Massachusetts Hospital in Westfield and the majority of the children attending were from the greater Westfield area. The total enrollment at the time of the study was 41 children, of whom 50% were designated as handicapped according to the criteria of Chapter 766, the Massachusetts state legislation governing the education of handicapped children.

All children attended the program 5 hours a day, from 8:30 AM to 1:30 PM for 5 days a week. Transportation was provided to and

from the center for all children. Two hot meals were served every
day. According to the center director, little recruitment was necessary
since local school systems and social service agencies referred most
of the handicapped children, while the nonhandicapped children's
parents found out about the program from former parents, neighbors
or through occasional newspaper articles publicizing the center.
Several children were from families that had enrolled another child
previously or were from families that had both a handicapped and
nonhandicapped child attending. While detailed information on
parental socio-economic background was not obtained, the center
director reported that all families involved with the center were
either lower or lower-middle class. Of the nonhandicapped children,
3 were black and 3 were Hispanic. Nine of the nonhandicapped
children had been attending the program for nearly two complete
school years, while the remaining 12 children had been attending for
one school year. The study was conducted during the spring of 1980.

Five of the nonhandicapped children had significant experience
with a handicapped child or sibling outside of their school experience
with handicapped children. The range of this experience was: first
cousin, living in same household with handicapped child who attended
the program; younger sister of same handicapped child attending
program; older sister of deceased handicapped sibling who had died
at age 4 one year ago; twin brother of handicapped sister who was
attending the program; and younger brother of handicapped sister
attending the program.

Targets. There were 20 handicapped children attending the program
at the time of data collection. They ranged in age from 3 years 3
months to 10 years 9 months, with a mean age of 6:6. Eight of the
handicapped children were girls and 12 were boys. All of the handi-
capped children were classified as having either moderate or severe
handicaps with the majority being in the severe range. The single
greatest type of handicap was various forms of cerebral palsy, and
for some children with this condition there were also other compounding
conditions including spina bifida and retardation. The other types
of handicaps included: emotional disorders including autism,
psychosis and emotional disturbance; mental retardation and general
developmental delay; hearing and vision impairment; severe seizure
disorder; brain tumor; and hydroencephaly. Six of the handicapped
children were both speech and mobility impaired; two were only
speech impaired with very minor mobility limitations; and five
children were only mobility impaired with no significant speech
limitations. There were three black and three Hispanic children
among the handicapped group. Three children with severe cerebral
palsy were generally separated from much of the daily activities of
the center and were attended by teacher aides and a physical therapist.
Four other handicapped children were designated as social isolates
by the center staff and required careful adult supervision.

Setting. The center employed a large number of staff personnel.
During the time of the data collection the adults present at the
center included: director, associate director, educational coordinator

social worker, physical therapist, speech pathologist, 7 full time
teachers, 3 teacher aides, and an administrative assistant. Occasionally
present during the data collection period were a consultant psycholo-
gist, educational consultant, part time occupational therapist,
business manager, various substitutes for teachers and teacher aides,
and student teachers.

The center itself occupied a single building on the edge of a
regional hospital facility serving chronically congenitally impaired
clients who required 24 hour a day nursing care. A residential alcohol
treatment program also was located on the hospital grounds. While
there was no programmatic connection between the children's center and
these other programs located physically adjacent, periodically hospital
residents were observed in the out of doors.

The children's center consisted of three classrooms, a large
outdoor play area, a small teacher lounge, a small administrative
office, a kitchen, toilet and washing facilities, and one small
educational/testing room. One of the three classrooms was very large
and contained an elaborate loft and climbing structure, a separate
area for physical therapy activities, and an indoor sand play area.
The most notable feature of the physical space was the large number
of specifically designed and constructed lofts, climbing apparatus,
and large scale multi-level structures. Much of this equipment was
inaccessible to those children with severe mobility impairments,
although on many occasions teachers were observed assisting such
children in gaining access to the higher level structures. The center

did possess specifically adapted equipment for the exclusive use of the handicapped children. There were several "handicap bikes", various seating and standing chairs and podia, and numerous soft form pieces for physical therapy activites. The handicapped children themselves used their own equipment related to their specific conditions. This included wheelchairs and oversized strollers, crutches, walkers, leg braces and full body braces, hearing aids, and varieties of chairs and stands.

The program at the children's center consisted of group activities and free play periods. For certain time blocks children were specifically grouped, primarily according to age. During these periods, the more difficult handicapped children were usually separated into the small educational/testing room and another group with severe cerebral palsy were also physically removed from the ongoing group activities. During meals, group sings, and outdoor play all children were in the same general physical vicinity.

<center>PROCEDURE</center>

To determine the nature and frequency of social interaction between nonhandicapped and handicapped children, eight handicapped children were selected as targets for observation of their social interaction with their nonhandicapped classmates. The selection of the eight handicapped children was made on the following criteria: age, type and severity of handicap, gender, and degree of social interaction with nonhandicapped children as determined by teacher comment and pilot observations.

Summary characteristics of the eight target handicapped children[1]
are:

1. Kathy, female, 7:4 years old, white, spastic athetoid, wears leg
   braces and uses walker, slight drooling and misarticulation,
   sociable, has several good friends, especially target #2, can lead
   and direct social group.

2. Paula, female, 9:9 years old, white, spastic quadriplegic, spina
   bifida, encephalocele, wears full body brace attached to para-
   podium with foot restraints, can use walker, occasionally in a
   stroller, limited use of hands, slight facial disfigurement,
   asymmetrical eye placement, has shunt, tilts head to one side,
   extremely verbal and socially outgoing, good friends with target
   #1 and #6, dependent on adults for movement from one location to
   another.

3. Diane, female, 6:2 years old, white, spastic paraplegic, partially
   surgically corrected, no adaptive equipment, walks with halting
   gait and does not run, physically extremely attractive, socially
   interactive with numerous children.

4. Benjamin, male, 4:9 years old, white, spastic athetoid quadriplegic,
   with articulation disorder, no independent locomotion, usually
   confined to adaptive seating designed to restrain flailing arm
   and head movement, very well liked child, socially ambitious to
   be like nonhandicapped children, assertive of own limited
   competence.

---

[1]All names are pseudonyms.

5. Ricky, male, 7:0 years old, white, right hemiplegic and develop-
   mentally delayed, receptive and expressive language delayed,
   autistic-like tendencies, runs with awkward gait, socially
   isolated, has frequent emotional outbursts and uncontrollable
   behavior, cries, yells, repeats ritualized speech, most often
   with a supervising adult, often swinging, jumping or wandering
   alone.

6. David, male, 7:4 years old, white, myleomeningocele (spina bifida)
   and surgically corrected hydroencephalus, wears full body brace,
   can walk using crutches or walker, no speech impairment, socially
   outgoing, verbal and friendly, particularly with target #2.

7. Eric, male, 9:7 years old, white, left hemiplegic (mild), receptive
   and expressive language delay, hearing impaired and wears single
   hearing aid, outgoing, helpful with younger handicapped children,
   talkative, no mobility impairment, physically tall.

8. Jeff, male, 6:11 years old, black, severe spastic quadriplegic,
   receptive and expressive language delay, wheelchair bound,
   encephalocele with shunt, very limited social interactions, repeats
   few rote phrases, younger sister and first cousin attend program.

The social interactions that the nonhandicapped children engaged in
with these eight handicapped targets were observed by the author over
a five week period. Observations took place during the period of time
from 10 AM until 1 PM. Prior to 10 AM structured group activities
occurred, which limited spontaneous social interactions. Observations
were taken on a time sampled basis, with each target being observed

for three 3 minute intervals, with a one minute period between interval 1 and 2 and 2 and 3 to complete recording. Observations were recorded as field notes in running record format. Coding of these running records into categories of social interaction took place within 24 hours while the events were still fresh in the mind of the observer.

Owing to absences and irregularities in the scheduling of individual programming to the handicapped children, it was not possible to observe an equal number of intervals for each of the eight target children interacting with their nonhandicapped classmates. Thus, the total number of minutes of observed social interaction with each handicapped target was #1) 81 minutes, #2) 99 minutes, #3) 63 minutes, #4) 72 minutes, #5) 117 minutes, #6) 81 minutes, #7) 90 minutes, and #8) 81 minutes. Since the purpose of these observations was to study the nonhandicapped children's interactions with these target children, this difference in the number of minutes each target was observed is not a major problem. Further, the data were analyzed using proportional measures, considering each type of behavior as a proportion of the child's total behavior. (This means that the denominator is number of acts, not time).

Following the period of observation of the social interactions exhibited by the nonhandicapped children to their target handicapped classmates, the sample of nonhandicapped children was interviewed individually. Each child was taken to the small educational/testing room and asked to complete three experimental tasks---the Peabody Picture Vocabulary Test, the Social Understanding Interview and the Role Taking Task. These three tasks lasted from 20 to 30 minutes.

Naturalistic Observation Tool

Training of the Observer. The author of the study collected the data used to measure and describe social behavior exhibited by the non-handicapped children in the presence of handicapped classmates. The training included live practice sessions in another mainstream site and in a university affiliated nursery school. Video-tapes of children playing were also viewed and coded. Edwards, one of the developers of the instrument (Edwards, Jackson & Bonvillian, unpublished manuscript) assisted in the training.

Description of the Naturalistic Observation Tool. Observations were recorded as running record protocols. The primary reason for taking running record protocols was to use the results to give substance to the hypothesis that social interactions between nonhandicapped and handicapped children would be different from social relations among nonhandicapped children. These protocols provided examples of what the specific effects of various handicapping conditions were. It was also possible to calculate the percentage of intervals in which a handicapping condition was the focus of an interaction or impeded the continuation of an interaction. The second reason for the use of running record protocols pertained to factors at this particular site which made direct coding difficult. The large size of the program and the number of people involved in the ongoing variety of activities made it confusing to observe and code simultaneously. Thus, coding into categories of social interaction was performed later in the day after the observations were recorded, when it was possible

to examine them with concentration.

The categories used to code the observational records were derived from Edwards, Jackson and Bonvillian (unpublished manuscript) who developed the instrument for coding children's social play during free play time. A complete listing of the categories used in coding the observations is given below:

I. Categories descriptive of the beginning of the interval (3 minutes duration)[2]

   A. Activity (location and name of activity)

   B. Proximity (names of all children within 4 feet, and presence of teachers, indicated by "T")

   C. Touching (names of children in physical contact with target of observation, exclusive of children in proximity)

II. Kinds of social behavior

   A. Sociability

      1. Watches, observes
      2. Talks with
      3. Greets
      4. Touches
      5. Offers object
      6. Gives object
      7. Imitates
      8. Roughhouses.

   B. Nurturance

      1. Assists
      2. Gives affection
      3. Comforts
      4. Teaches
      5. Praises

---

[2]Edwards, Jackson, and Bonvillian used 2 minute intervals.

C. Succorance

    1. Follows
    2. Questions
    3. Requests help
    4. Shows
    5. Boasts

D. Aggression

    1. Hits
    2. Takes object
    3. Restrains
    4. Insults
    5. Mocks

E. Dominance

    1. Commands action
    2. Demands object

III. Categories indicating compliance or non-compliance

A. Compliance

    1. Complies to action[3]

B. Noncompliance

    1. Refuses object
    2. Refuses action

Complete definitions for each category and a sample coding sheet are provided in Appendices I and II.

In coding, the name of the child initiating the behavior was entered first with an arrow drawn toward the name of the child receiving the behavior. Only behavior that occurred with the target handicapped child was recorded. Thus, each interval coded had the name of the target child and the sample nonhandicapped child and an arrow indicating the initiator of the behavior. For each interval,

---

[3]Edwards, Jackson and Bonvillian did not include this category.

except Proximity and Watches, only one pair of names was entered. Proximity reflected any number of children within 4 feet of the target child, while Watches was defined as any child stared at or observed for 10 seconds or more. Teachers and other handicapped children who were not among the selected targets were also coded if they participated in any social behavior with the target. These behaviors with teachers and other handicapped children were later summed as a means of comparison to the summed behaviors by the nonhandicapped subjects.

The names of the target children were arranged in random order each day during the observation procedure. In some cases, when it was time for an observation to take place, a target child was not in a situation in which social interactions with nonhandicapped children were possible. When this occurred, the name of that target was placed at the bottom of the list for that day and observed later. No target was observed more than once per day.

Following the coding of the individual running records into social interaction categories, frequency counts were totalled for each category of behavior. Behaviors initiated and received by non-handicapped subjects, teachers (all T's) and all other handicapped children were summed separately. Percentages of the frequencies of occurrence of each type of behavior intervals were calculated.

Use of Naturalistic Observation Tool in Non-Mainstream Setting.

For the purpose of comparison of social behavior with a preschool group containing no handicapped children, data collected with the same Naturalistic Observational Tool were introduced at this point in the

analysis. These data were collected at the Wempfheiner Nursery School at Vassar College (Edwards, Jackson & Bonvillian, unpublished manuscript). The Vassar sample consisted of 18 children, 10 of whom were boys and 8 of whom were girls. The age range was from 3:11 years to 5:4 years with a mean age of 4:8 years. Subjects were each observed six times for six minutes per observation for a total of 36 minutes.

Similar calculations of the percentages of frequency of each type of social behavior intervals were performed on the Vassar data. Only social behaviors initiated by subjects were available for this analysis. This analysis permitted comparison of the rank order of each type of social behavior initiated in a group containing all nonhandicapped children (Vassar) with a group containing nonhandicapped children directing social behaviors to handicapped targets (integrated sample).

Further analysis of the data collected with the Naturalistic Observation Tool on the integrated sample determined the frequency and type of social behavior exhibited by each individual nonhandicapped child. For this purpose the behavior categories were grouped into units derived from Whiting, Child and Lambert (1966). These units, described as "behavior systems" in Whiting, Child and Lambert, were: sociability, nurturance, succorance, aggression, and dominance. The complete listing of categories above (page 43) indicates the composition of these groups. Brief definitions for each of these units are given below:

1. Sociability: making a friendly response to other people and enjoying friendly interaction itself; implies expectation of reciprocity; most likely to occur with people of equal status.

2. Nurturance: caring for the needs of others who are in a more helpless position; most likely exhibited in interaction with a person who is behaving succorantly.

3. Succorance: awaiting or accepting the nurturant response of another; signalling to another the wish for nurturance; common in infants.

4. Dominance: attempting to control behavior of others, attempting to cause others to do what one wishes; most likely with younger or lower status persons.

5. Aggression: hurting someone or doing things which usually lead to someone's being hurt; hurt may be physical or social; includes aggression that is provoked and unprovoked. (Whiting, Child & Lambert, 1966, pp. 43-64)

The categories of compliance and non-compliance were not considered "behavior systems" in the Whiting, Child and Lambert analysis of social behavior. However, they were added to this analysis as a means of assessing the willingness of sample children to comply with the requests of handicapped targets as well as the willingness of handicapped targets to comply with the requests of the nonhandicapped subjects. Appendix III gives full definitions for each of these units as well as examples drawn from the observational protocols.

Grouping the data into these subtotals of sociability, nurturance, succorance, dominance, and aggression for each sample nonhandicapped child gave a measure of the type of frequency of acts engaged in and received. These subtotals were then correlated with the results from the measures of role taking, the Peabody Picture Vocabulary Test, and the Social Understanding Interview to test the central hypotheses of this study.

Reliability of Naturalistic Observation Tool. Edwards, one of the
original developers of the Naturalistic Observation Tool, assisted
the author in determining the reliability of the coding of the observa-
tional protocols. Seven of the eight target handicapped children were
observed for 84 3-minute intervals by both observers. Reliability was
computed by determining the number of agreements divided by the number
of agreements plus the number of disagreements, multiplied by 100.
Separate reliability was computed for each category of behavior that
was observed during the course of these observations. Reliability
ranged from 67-100% with a mean reliability of 85%. For the categories
of comforts verbally, shows, boasts, teaches, imitates actions and
follows, there were no observed intervals. Categories with the lowest
reliability scores were: restrains (67%), imitates speech (67%), and
talks with (67%). Appendix VI gives all reliability scores.

Following the computation of reliability results, a review was
conducted of the categories with the lowest reliability scores. Edwards
provided further clarification of the definitions for these categories.
Following this, formal data collection was begun.

Peabody Picture Vocabulary Test

The Peabody Picture Vocabulary Test, developed by Dunn (1965),
was administered to the nonhandicapped sample. The Peabody Picture
Vocabulary Test (henceforth PPVT) consists of a series of drawings
of familiar objects. After establishing basal rate, the examiner
asks the subject to look at the 4 items on the page and point to the
one that is a picture of the word the examiner says. Ceiling rate is

established when the subject misses 6 out of 8 consecutive presentations.
The PPVT is easily administered, usually taking no more than 10 minutes
to complete. Scoring consists of totalling all correct responses
and subtracting the number of incorrect responses. This gives the
total raw score which then may be converted to three types of derived
scores: an age equivalent; a standard score equivalent; and a per-
centile equivalent. For this study, scores were converted to the
standard score equivalent or intelligence quotient.

The PPVT was chosen for use in this study because it provided a
valid estimate of subjects' verbal intelligence as inferred from hearing
vocabulary. Further, the scores on the PPVT served as an additional
independent variable to the chronological age for each subject
Finally, the PPVT is known as a test that has a high interest value
and is a good rapport establisher. It was used as the first of three
procedures administered individually to each subject in this study.

Social Understanding Interview

Design of the Social Understanding Interview. This procedure was
modeled after the clinical interview method of Piaget (1929/1972).
Furth (1980) and Damon (1978) also have conducted research using
this model. The purpose of the procedure was to explore children's
thinking about their handicapped classmates. Specifically the issues
of concern to this study were: the definitions and application of
the concept of handicap; ideas about the origin, cause and time scope
of handicapping conditions; perceptions of similarity and differences
between the subjects and handicapped targets; perceptions of the ages

of familiar handicapped targets; and affective judgments related to familiar handicapped targets.

For the purpose of the interview, color photographs were used of five of the eight target children. Although observations were taken on the interactions between nonhandicapped subjects and the eight handicapped targets, it was not possible to conduct interviews for that many cases. The five handicapped targets whose photographs were used as the subjects of the interviews were targets, #1, 2, 4, 5, and 8. The descriptions of the targets is found on page 39.

Prior to the observations and interview procedure, color photographs had been taken of all children attending the center. The pictures were made so that no child would be singled out or excluded from the attention of this process. For several days the entire collection of photographs was displayed. This was done to insure that the pictures were available for observation by the children, so that when the target photos were used in the interview, each child knew of the existence of all of the photographs. The interviewer told each child that at the conclusion of the interview he/she would receive his/her own picture. The actual pictures used in the interview are reproduced in Appendix IV.

Typical questions asked by the examiner were:

1. Who is this?
2. Do you ever play with _____? (use name stated by child in #1)
3. Is _____ a friend of yours?
4. What do you play together?

5. How old is _____?

6. Tell me something about _____.

7. Is _____ the same as you are?

8. How is _____ different from you?

9. Is _____ handicapped? Are you?

10. What is handicapped?

11. How did _____ get that way?

12. Will _____ be that way when he/she grows up?

13. What do you like about _____?

14. Is _____ lucky or unlucky? Why?

        good or bad? Why?

        a kid or a baby? Why?

The questions had been field tested with 9 children in another main-
stream site, using photographs of 3 handicapped targets. During the
field testing, some wording of the questions was refined, especially
that dealing with friendship and liking. It was found that children
confused the word like (intended to mean similar) with liking, i.e.,
positive feelings for. Therefore, question #7, 'Is _____ the same as
you?' was substituted for 'Is _____ like you?' Another confusion with
the wording dealt with the forced choice attribute pair lucky/unlucky.
Some children clearly did not understand the meaning of unlucky or
lucky or demonstrated that their definitions were not correct. There
were some children who did demonstrate genuine correct knowledge of
the terms, however. The same issue was encountered with the word
handicapped. For certain children the word was not a part of their
vocabulary.

In the course of conducting the interviews, there were many variations in the order of the questions and the wording of the questions themselves. Some questions were not asked of particular subjects, which usually reflected the author's judgment that that area of the interview was proceeding unsuccessfully. If a question seemed to tap an especially interesting topic for the subject, it was pursued in more detail. Since the procedure was designed to explore children's thinking and understanding, it was assumed that this variation would occur. The coding and use of the results of these interviews reflects the qualitative nature of this method.

The order of the pictures used was randomized. Each interview was tape recorded and transcribed for further analysis. In cases where the child's answers were non verbal gestures (head shakes) or barely audible the examiner repeated the answer, so that it was recorded.

Rationale for design of the Social Understanding Interview. The author had previously observed nonhandicapped children in contact with handicapped children exhibit curiosity and misunderstanding about the nature, cause and effects of various handicapping conditions. Spontaneous questions and comments by preschool children indicated that they classified handicapped others as babies, non-people, or different from themselves. Children were observed asking about related equipment and unfamiliar behavior exhibited by handicapped class- mates. Imitation of certain behaviors and verbal patterns in a mocking way had also been noted.

Piaget (1929/1972) and Furth (1980) recommended the clinical interview method for the study of children's understanding and conceptions about complex relations between themselves and objects. Furth and Damon (1978) particularly elaborated this method to study social concerns. This method is suitable for the topic of this study because when correctly employed, it adapts to the range, variation and spontaneity characteristic of young children's thinking. The procedure of asking children directly about their concept of handicapped conditions and social identity associated with known handicapped classmates, assumes that young children do express their mental frameworks that guide their behavior and make sense of their social environment.

The observations of children's behavior provides experiences that can be analyzed and from which inferences can be drawn about what these mental frameworks are. In this case, however, the absence of such behavior or the restricted nature of it is the subject of the investigation. Therefore, observations of this behavior are insufficient and can only provide clues to the understanding related to this absent behavior.

Thus, the verbal interview method developed and employed for this study pursued the spontaneous questions and comments previously observed in young children. The questions and directions of inquiry were designed to focus on identity, age, dissimilarity, friendship and degree of knowledge related to known handicapped peers.

Use of the Social Understanding Interview. The interview procedure followed the administration of the PPVT. The examiner told the subject that she wanted to show some pictures of children in the school and talk about the children in the pictures. She showed the child the first picture and began the series of questions, beginning with the request that the subject name the child in the picture. If the subject volunteered descriptions about the child in the picture the examiner followed this lead. Otherwise the examiner proceeded with the questions. When discussion was complete for the first target child, the second picture was presented. This process was followed until all five photographs had been discussed.

Most children were comfortable in the interview situation and expressed themselves freely. There were some subjects who were nervous or distractable. In these cases, the interviews were somewhat shortened. Interviews in which the subject gave little or no information or only responded to yes or no questions were regarded as unsuccessful. Cases in which it appeared that the examiner was eliciting a point of view by suggestive questioning were also regarded as invalid information.

Coding the Social Understanding Interview. The interviews were transcribed by the examiner. This resulted in over 100 pages of single spaced material. To reduce this material to more workable size, the examiner reviewed the transcriptions to eliminate unacceptable material. Eliminated were yes/no questions not followed by any supporting comments, examples of answers from suggestive questions,

random answers or any off the topic comments (regarding the tape
recording or some interruption). Retained were 'romantic' or
imaginative elaborations, as described by Piaget and Furth. These
are cases in which the child seems to be playing with the examiner
by giving a ridiculous answer to a question that is either uninteresting
or difficult for the child to answer. Piaget and Furth argue that,
while such remarks are not as valuable as the "liberated convictions"
that characterize children's developmental knowledge, even in romantic
answers there is some element of the child's knowledge. They
distinguish romantic answers from random answers, which can easily
be dismissed by the use of counter suggestions.

When these eliminations were complete, the remaining number of
statements was counted for each subject. As an index of the negative
quality of these statements, the number of negative statements was
counted and the percentage of negative comments for each subject across
all five targets was computed. Negative comments were defined as
explicit statements of dislike, badness or unacceptable behavior.
Descriptions of dissimilar behavior or baby-like behavior were not
counted as negative comments. This procedure was adapted from
Davidson (1976) whose research explored prejudice in young children.

A second coding procedure involved the replies to the probes
about the ages of the targets in the photographs. Answers were coded
into three possible categories:

1. Defines target as a baby; gives age from 0 to 2 years.

2. Defines target as both a baby and a kid; uses phrase "baby/kid"
    or "baby, just big," gives age as above 2 years, but de-
    scribes target as a baby.

3. Defines target as a kid, gives age in range from 3 to 10.
Thus, answers were scored as a 1 for baby, a 2 for a mixed age guess,
and a 3 for a kid guess. Scores were computed separately for each
target. In cases in which a subject was inconsistent across targets,
the age guess level was designated as mixed.

The final coding procedure used to examine the interviews was to
group them into levels. Although there was a great deal of variety in
the number and wording of the questions, and in the degree of detail
with which questions were answered, some interviews clearly expressed
more explicit and accurate knowledge than others. The author devised
three levels to categorize the interviews based on criteria suggested by
social cognition literature, the development of preschool thought, and
an inductive analysis of the interviews. Appendix V presents criteria
for the 3 levels and gives samples of each. Briefly, level 1 interviews
were those judged as expressing the lowest level of social knowledge;
level 2 interviews as those expressing more developed and differentiated
concepts of children's handicaps; and level 3 interviews as those
expressing the most complex and generalized social knowledge in this
sample. The following discussion is of the defining characteristics of
the interviews.

Level 1 scores were given to those subjects exhibiting the lowest
level of social knowledge. Children who gave very limited responses or
answered few of the questions were scored as level 1. Children who
exhibited a very undifferentiated knowledge were also given a level 1
score. Level 1 comments were the most egotypic and photo-based. Level
1 children tended to use the same words and phrases to describe all 5

targets. They often repeated the same answers for each target, even when their own experience with that child or the evidence in the photograph contradicted what they were saying. Their initial comments were often about something in the photograph, rather than the identity of the person. Few level 1 children had developed categories previous to the occasion of the interview. That is, when asked if the child in the photo was handicapped or different, they often answered one way, but then changed their answer upon further questions or countersuggestions from the examiner. In general, level 1 responders saw few differences between themselves and the handicapped targets. Those who did classify the target children as handicapped tended to give overgeneralized reasons for this classification. That is, a subject might say someone is handicapped who has a walker, and then use that criteria to describe all 5 handicapped targets, incorrectly and contrary to the photographs.

Level 2 interviews indicated a more developed range of understanding of the handicapped targets and more differentiated knowledge of the five children in the photographs. Most often, level 2 responders saw the handicapped children as different from themselves and gave more reasonable descriptions for the physical aspects of the differences they described. As explanations for the differences they often resorted to the "bad baby" reason. Other explanations given to explain the existence of handicaps were usually fanciful, inaccurate, or illogical.

Level 3 interviews displayed the greatest range of social knowledge of the handicapped targets in this sample. Subjects at the third level were more reality based in their descriptions. Some level 3 subjects found ways of describing the handicapped targets as like themselves

in some ways, and different from themselves in other ways. They did not consider the differences between themselves and the handicapped targets as necessarily bad, just different. Some level 3 subjects indicated some knowledge of the psychological dimensions of handicapping conditions. For example, a subject said that she knew that one target really wanted to walk and couldn't and that made him (target) feel bad. Other subjects thought it would be bad or awful to be in a wheelchair all day. Several level 3 subjects agreed that being handicapped was unlucky. Most often, level 3 subjects did not give explanations for the existence of handicapping conditions. Whereas level 2 children had given imaginative reasons (car accident, fall, punishment for badness, God), level 3's indicated that the targets "couldn't help the way they are," or that there was no reason for the existence of handicaps. Finally, level 3 children identified the age of the targets most often within one year of their actual age, while the level 1 and 2 children guessed more wildly about the ages. Level 1 and 2 subjects also made statements that contradicted other statements previously made within the same interview. Level 3 subjects monitored their own contradictions and made fewer of them.

The interviews were scored for levels separately so that each subject received five scores. In cases in which targets were scored on different levels by the same subject, the scores were averaged. Five of the 20 children interviewed had averaged levels.

Role Taking Task. Following the Social Understanding Interviews, each subject participated in a Role Taking Task, a hiding and guessing game

used by DeVries (1970). The guessing part of the game involved the examiner hiding an object (a peanut) in her fist behind her back. The examiner then extended both fists and asked the subject to choose the one with the peanut. This was repeated for 8 trials. The examiner hid the peanut in alternating hands for the first four trials and in the same hand for the last four trials. The examiner recorded the subject's guesses and the hand in which the peanut was hidden for the guessing part of the score. Any comments made by the subject was also recorded. Then the examiner told the subject that he/she could hide the peanut. The subject was given the peanut to hide and the examiner attempted to guess which of the subject's hands it was in. The examiner attempted to guess unsuccessfully which hand the peanut was in. The subject was allowed to hide the peanut for at least 8 trials. Scoring for the hiding part of the game was the same as for the guessing part of the game. Scoring was computed using a 10 item scale developed by DeVries. The scale items were:

1. Attempts to play when asked to hide.

2. Does not always hide in same hand.

3. Changes peanut hand more than once during hiding.

4. Hides correctly on at least one trial, i.e., imitates mechanics of procedure.

5. Does not always guess the same hand.

6. Changes hand guessed more than once during guessing.

7. Almost always hides correctly.

8. Has competitive attitude in hiding, for example, indicates chagrin or disappointment when E guesses correctly, indicates pleasure when E is wrong, tells E to pick hand without peanut or extends that hand suggestively, says E is wrong when E guesses correctly (tries to cheat), irregularly shifts peanut's location, presents two empty fists when hiding, says didn't want E to find peanut or is trying to fool E, inadvertantly lets E see peanut and then rehides or indicates chagrin.

9. Uses shifting strategy in hiding.

10. Uses shifting strategy in guessing. (DeVries, 1970, p. 761)

Assessment of each child's sequence of alternation in guessing and hiding was made by counting the number of changes from left to right. Scores on the 10 item scale were pass/fail. DeVries' study provided a five level sequence of developmental role taking which was applied to the results of the scale items.

The lowest stage of developmental role taking occurs when the subject fails all scale items or passes only the first. In this case, the child seems to construe the game as one in which there is no uncertainty. The peanut is conceived of as continuously occupying the same place. The object of guessing is to uncover the peanut. Hiding, when attempted is conducted with a total lack of recognition of the need for secrecy and deceptiveness. Thus, the child at stage 1 displays no recognition that there is such a thing as individual perspective. Flavell (1974) views recognition of the existence of individual perspective as the most basic component of role taking.

Stage 2 rank was given to subjects who passed scale items 2 through 6. Subjects demonstrated improved hiding and guessing behavior, but this behavior most likely was imitative of the examiner, since subjects

still did not attempt to deceive the examiner. When guessing, the stage 2 subject followed a pattern of regular, alternating guesses. In hiding, the subject extended the correct fist suggestively, or forgot to close the empty fist. The subject wanted the examiner to find the peanut and even told the examiner which fist to guess. Thus, the child at stage 2 indicated that the goals for the two opponents were identical, that the guesser be successful.

The stage 3 player recognized the difference in the roles of guesser and hider, by presenting a neutral or deceptive choice for the examiner. A stage 3 child exhibited competitive playing by expressing chagrin when E was right, or triumph in tricking E. Cheating occurred in stage 3. The scale items passed were 7 and 8. However, the stage 3 player still didn't account for the opponent (examiner's) strategy of trying to outwit. The player hid the peanut in a regular alternating pattern, in rapid fashion.

The stage 4 player was able to use a more deceptive and less predictable strategy of shift-hiding. That is, the peanut was now hidden in a shifting pattern. In doing this the hider had to think about what the other player (examiner) might guess. However, the stage 4 player was unable to utilize a shifting strategy in guessing, thus failing item 10. This suggests that the player was able to take account of the other's perspective before he/she was able to take account of the other's taking account of the child's perspective.

Finally, the stage 5 player used a shifting strategy in guessing and hiding, passing all ten items. Thus, the player was both a shift-

hider and shift-guesser. When guessing, the stage 5 child often paused between guesses, studying the examiner's face for clues. There might be verbalization of the opponent's intent, such as "I thought you would have it in that hand because you thought I'd pick this other hand."

Limitations of Procedure. It was assumed that by choosing handicapped children to observe (targets) in interaction with nonhandicapped children, that sufficient interactions would occur with which to test the hypotheses of this study. However, there were some children who initiated no social interactions with the eight handicapped targets who were observed. This may reflect the large number of total children at this particular site or some factor in those children who chose not to interact with handicapped children. Possibly observing all the nonhandicapped children as well as the selected handicapped children would generate some social behavior data for each of the nonhandicapped children with which to compare their social understanding data.

INTERVIEWS

Introduction. This chapter discusses the results of the Social Under-
standing Interviews in detail and provides examples to illustrate the
nature of children's understanding about their familiar handicapped
classmates. Included in this chapter are topics that were not analyzed
with statistical procedures, yet are of interest to the hypotheses of
the study. During the interviews the 17 children interviewed offered a
wide range of comments about the target children, many of which are con-
sonant with the finding of person perception studies. As would be ex-
pected with a preschool sample (Peevers & Secord, 1973) many of these
comments concerned aspects of physical identity, age and size of the
target children. While the lower level interviews provided examples of
how less mature children centered on physical details in the photographs,
some interviews at the higher level (3) contained references to psycho-
logical attributes. Children also freely expressed opinions as to their
likes and dislikes involving the target children. Again from the liter-
ature on person perception, it has been shown that children make more
detailed and lengthy comments about children for whom they have positive
feelings (Peevers & Secord, 1973). This tendency was noted in this
sample, although sample size did not permit statistical analysis.

The following sections present the topics that characterized the
interviews. When possible, percentage scores were calculated. For a

review of the characteristics of the target children, the reader will find descriptions on page 39 (target #'s 1, 2, 4, 5, and 8). Photographs are reproduced in Appendix IV.

First Spontaneous Comment. The interviews were examined for the presence of a first spontaneous comment. In 85% of the 84 total possible cases[4] an initial spontaneous comment was offered, most often following the examiner's question, "Tell me about ____?" or by the subject immediately after the name of the target was identified. The following table (3.1) provides a list of the types of spontaneous comments, and the percentage score of this comment out of the total number of spontaneous comments. For this analysis, the comments were grouped into the following mutually exclusive categories: photo-based, handicap related, positive, and negative. Within the photo-based category a distinction was made between an irrelevant photo-based comment (those having nothing to do with the identity of the target child) and a target related photo-descriptive comment. Thirty-two percent of these initial comments were photo-based references. Negative comments accounted for the second most frequent category of spontaneous comments, being 29%. Positive comments were 21% of the total comments. Comments that made a specific reference to a handicapping condition were 18 1/2% of the total comments.

Comments Indicating Similarity and Differences. Several studies had indicated that the perception of differences between handicapped and nonhandicapped children was related to classroom segregation.

---

[4]16 S's x 5 interviews, 1 S x 4 interviews = 84 interviews

Table 3.1

First Spontaneous Comment

Photo-based:	n	%	Key examples:
I. Irrelevant	9	12.5	"What kind is this dirt?" (Lulu on #1,Kathy) "What's all snowy; see all the white stuff?" (Mark on #8, Jeff) "Who's right there? (obscured figure, Juan on #2, Paula)
2. Target related	6	8	"He's playing with the truck, a broken truck." (Jorge on # 4 Benjamin) "She's in the sandbox." (Laura on #1, Kathy)
3. Target laughs	4	5.5	"She laughs; and that's our school." (Sam on # 2, Paula) "He laugh" (Judy on # 8, Jeff)
4. Target swings	2	3	"He swings alot, just swings." (Carol on # 5, Ricky)
5. Target in wheelchair	2	3	"Ricky on the swing." (Ronald on #5) "He's sitting in his wheelchair." (Skip on # 8, Jeff)
	23	32	

Handicap related:	n	%	Key examples:
1. Target uses walker	5	7	"She can't walk without a walker." (Debbie on # 1, Kathy) "She can walk with a walker." (Carl on # 1, Kathy)
2.Handicapped	4	5.5	"She's handicapped and she need a walker." (Susan on #1, Kathy) "I can't (play with) when he's in his wheelchair. He's handicapped. Not with handicapped children." (Evan on # 8, Jeff) "He handicap. He in a wheelchair like like this, and he can't walk. He wiggle his head and he wiggle these, (feet) and his arms." (Susan on #4 Benjamin)
3. Moves alot	2	3	"Wiggle around cause he can't stop doing it." (April on #4,Benjamin) "He moves alot cause he can't keep control." (Debbie on #4 Benjamin)
4. Can't walk	2	3	"She's a baby and she don't walk, cause she's handicapped." (April on # 1, Kathy) "She can't walk. She can't do...I dunno." (Mark on # 2 Paula)
	13	18.5	

Table 3.1,(con't.)

First Spontaneous Comment

Negative:	n	%	Key Examples:
1. Disliked	7	9	"I don't like her. Cause she's stupid. Cause I hate her."(April on # 2 Paula) "No! I hate that page! (E. "Boy?") "Yes." (Ronald on # 5,Ricky) "I don't like Paula, she looks bad." (Skip on # 2, Paula)
2. Does bad things	6	8	"He hits, he pulls hair." (Laura on # 5, Ricky) "He always takes bikes away." (Evan on # 5, Ricky)
3. A fighter	2	3	"Benjamin is a fighter. He punches." (Steve on #4, Benjamin)
4. A nothing	2	3	"He does nothing." (Steve on #8, Jeff) "She doesn't know anything yet." (Carol on # 2, (Paula)
5. Other	2	3	"Her mommy don't like her! Hurt her badder." (Randy on #1, Kathy) "You go to sleep bad boy. And shut your tongue, little baby." (Randy on #8, Jeff)
6. Baby	2	3	"Yeah, now she's a baby, too." (Sam on #1, Kathy)
	21	29	

Positive:			
1. Describes likes	3	4	"She like cottage cheese and cereal." (Lulu on on # 2 Paula) "Play with playdough... games." (Debbie on # 2, Paula)
2. Playmate	5	7	"I like Ricky." (Steve on # 5 Ricky) "She likes me, and she don't get me upset." (Susan on # 2 Paula) "She play with me. Play sandbox." (Judy on # 2, Paula)
3. Size, possessions	2	3	"She's big." (Juan on #1, Kathy) "He's got this spiderman shirt." (Skip on #4-Benjamin)
4. Companion	2	3	"I walk with him." (Skip on # 5, Ricky)
5. Distinct from other targets	2	3	"Not handicapped anymore." (Juan on # 5, Ricky) "She doesn't pull hair." (Laura on # 2, Paula)
6. Other	1	1	"I saw him at the Eastfield Mall." (Carol on # 4, Benjamin)
	15	21	

(Turnbull & Schulz, 1979, Thurman & Lewis, 1979). Studies of early peer relations confirm that children generally associate with others whom they consider to be like themselves (Rubin, 1980). Thus, during the interviews the examiner probed this issue by asking the non-handicapped subjects if they could identify and explain ways in which they were similar or different from the target handicapped children. Comments on this issue occurred in 65% of the interviews (55 of 84 cases). The 17 children interviewed made 43 statements reflecting their ideas on this topic. Twelve children did not respond to probes. Of the responses, 77% (n=32) were comments by the subjects in which they distinguished themselves from the target, while 20% (n=11) were statements in which similarities were noted.

Similarities. Statements of similarity in which the subject agreed that the target was "like me", the "same" or not "different" seemed to represent a hasty or superficial treatment of the question. Some children agreed to the question, "Can _____ do everything you can do?" without reflecting on the obvious ways in which this was impossible. Several children used age as the basis of similarity. That is, when asked how old they thought the target was, they replied, "like me." This occurred in some cases in which the subject gave his or her own age incorrectly, and then added that the target was the same age.

Only one child (Juan) noted similarities between himself and each of the five target children. He stated that Kathy (#1) was like himself because "she can do everything I can do," and that Ricky (#5) was not different because, "he walks." Later, he commented that

Ricky was "not handicapped anymore," a statement that can be regarded
as potentially qualifying his agreement of similarity. For Paula
(#2) and Benjamin (#4), Juan denied any differences and agreed that
they were the same as himself, but added in both cases the additional
comment that they were "handicap, too." For both of these interviews,
Juan later indicated some way in which the target was different from
himself, although he refused to identify it as a difference. For
Paula, whom he thought was "bad, cause she don't do something," he
explained, "she don't eat everything. She eats very fast. . . slow."
(correcting himself). When the examiner probed this, Juan explained,
"Cause we eat so fast." That is, he placed himself in one group,
the fast eaters, and Paula in another group, the slow eaters. Benjamin
was identified as a "friend" and described fondly as an "eater-biter"
because, "when I give him a chip, he always bite me." Later Juan
described Benjamin's handicap in this manner, "He don't got a walker,
(unlike Kathy who, "goes with a walker") he just got that" (pointing
to the corner chair in the photo) and "a pick-up truck" (also in the
photo). As he elaborated on what he didn't like about Benjamin he
says, "He can't even relax. He just moves. All the time, when he gets
at school." (E, "What do you do?") "I hold his head back and I tell
him. He relax."

In this last interview, Juan noted that Jeff (#8) was "brown" like
himself. He also answered that Jeff was "three, like me" a curious
statement that was true for neither himself (aged 5:3) nor Jeff (6:11).
Further, Juan considered Jeff lucky, "cause he clap" and "he doesn't
even sing."

Thus, for the five children who found some way to indicate a similarity between themselves and the targets, the similarities noted were simple attributes like race, a similar first name and age. No child who found similarities was consistent throughout the interviews in maintaining this position, as the example of Juan suggests. In each case after a rapid agreement to similarities, they responded to more questions by describing behavioral and physical differences between themselves and the targets.

Differences. Interviews revealed numerous ways in which the subjects distinguished themselves from the targets. Reflections about differences most often appeared directly following a probe on this topic, but in some cases only surfaced during comments about handicaps. Thus, the following discussion about differences does not reflect the totality of all statements made that indicated a recognition of differences. Further discussion is found in the section on definitions of handicaps.

Differences as here and now. Several children referred to the fact that at the precise moment of the interview, the target was different because he or she was somewhere else, "in the sandbox", playing with a "dump truck", not doing "this" or "laughing". These subjects understood the question in a very literal way, rather than as a probe about the identity of the target. That is while agreeing that there were differences between themselves and the targets, they identified these differences in an egocentric manner and in the time frame of the absolute present moment. These references also tended to most often be photo-based.

<u>Physical and Behavioral Differences</u>. Other children noted physical and behavioral differences between themselves and the targets. They listed physical attributes and possessions and made comparisons in which they asserted their superiority in size, ability and status. Examples of comments of this type include:

> Evan on Benjamin (#4), "He doesn't have a shirt like me. He can't dig with a spoon. (scolding) No, only with a shovel."

> Debbie on Ricky (#5), "He cries all the time."

> Mark on Benjamin (#4), "We can run faster."

> Steve on Paula (#2), "She is different. She wears a . . . (brace) and she goes like. . . crazy. She plays different. She looks different. When you play with her she looks different."

> Susan on Jeff (#8), "He's just smally. I'm bigger than him."

> Sam on Jeff (#8), "I'm not a baby anymore."

Susan's and Sam's comments, echoed by several others, indicated their classification of the targets as smaller beings and more explicitly as babies. This explanation was cited by some children both as an explanation for handicaps as well as a summary of physical differences. Susan in fact, was not larger than Jeff, but her references to his "smally" size may be justified from what he looked like in the photo (smaller than life size) and from his stature as he sat in his wheelchair. Jeff, without any independent locomotion and restricted by his inability to extend his limbs, was never in a full upright position. Sam's judgment that Jeff's differences were due to his babyhood represented a related inference common in young children, that babyhood, like size, represents a lesser state than childhood. Babies, to Sam, can't do certain things; they can't walk,

they don't talk, they are very unpredictable, and they do bad things.
So Sam, like the other children who judged the targets to be babies,
considered Benjamin a baby, and boasted of the fact that he had
outgrown that lesser state.

Three children identified race as a difference between themselves
and the targets. Two white children observed that Jeff (#8) was
black while a black child recognized his race as dissimilar to that
of a white target child. Race had also been indicated as a
similarity between Jeff (#8) and Juan.

Differences as Dislike. In some cases negative judgments were offered in
addition to describing the physical attributes of the target children.
When asked to choose between the words good and bad and to explain
their choice, several children who defined the targets as bad gave
feelings of dislike as their reasons. April explicitly equated
differences with disliking. For Paula (#2) and Ricky (#5) she
explained that they were different because she intensely disliked
them. (Examiner to April, "Why is Ricky different?" April, "Cause
I hate him." E. to April, "Why do you think Paula is different?"
April, "She's a dummy.") Ronald vociferously denied that Paula
could be similar to him in any way. For her age he loudly announced
"She ain't five, no way," (five being his own age) and was noticeably
angered by E's next probe, "Is there any way Paula is like you?"

Differences as Handicaps. The final way in which the nonhandicapped
subjects recognized differences involved noticing physical differences
associated with the handicapping conditions and in some cases

explicitly identifying the fact that the targets were handicapped
as the major difference. To E's question of differences between
Paula and herself Susan stated immediately, "She handicap. She need
a thing on her and she need a walker. Because she handicap." Lulu
described Ricky's difference as being the "same as Paula and Benjamin,"
her message being that there was a similarity among the target
children in their being handicapped, and that she, Lulu, considered
herself different from them. Evan, whose twin sister was severely
handicapped and attended the program, articulated this point of view
clearly. For each of the four target children whom he considered
handicapped (Ricky, #5, was not handicapped to Evan, although he listed
several bad behaviors that Ricky committed) Evan stated firmly that
"we" (himself and the other nonhandicapped children) "don't play
with handicap children." In the case of Paula (#2) Evan pronounced,
"She's a handicap person, too. You don't play with them, you know.
But she can talk, but Jeff can't." Evan had neatly divided his peer
group into two groups, handicapped and nonhandicapped, but within the
handicapped group he was making some distinction. Lulu, and the
others like her who used "we" and "they" or listed groups of other
handicapped children as being like the target, also were using this
form of classifying into two groups. Unlike Evan, who sometime
previously had derived his criteria for group membership (being in a
wheelchair or using adaptive equipment) and was able to make finer
discriminations among the group members, Lulu and the others seemed
to be creating these categories in the process of the interview.

Steve, whose comments about Paula being different were reported above, went on to define handicaps as, "when you do different things, you do handicapped," and then listed for each target what the "different" things were.

Summary. The majority of the nonhandicapped children interviewed expressed numerous ways in which they differentiated themselves from the handicapped targets. These differences were primarily of physical attributes and ability, with some references to group membership (babies, race and handicaps). Not every child who recognized such differences also overtly defined these differences as handicaps, but as will be seen in the following discussion about handicaps, there was much overlap in the two areas.

Definitions of Handicaps. Of the 84 times in which the 17 children interviewed were asked if the 5 target children were handicapped, there was agreement 65 times, in 77% of the cases. The figures for the individual targets were:

        Kathy (#1) 88% agree is handicapped
        Paula (#2) 82% agree is handicapped
        Benjamin (#4) 83% agree is handicapped
        Ricky (#5) 50% agree is handicapped
        Jeff (#8) 82% agree is handicapped.

Two sample children consistently denied that any of the targets were handicapped and one other child gave contradictory answers 3 times, which were judged to be guesses, and therefore counted as negative. The two children who answered negatively every time appeared to have no real understanding of the word handicap. One of these, Sam, was instead quite sure that the target children were all babies. Although

several children who agreed that the targets were handicapped had difficulty pronouncing the word correctly and many other children misused the term grammatically, their explanations contained sufficient sense for the examiner to judge that their definition and application of the term were reasonable and represented some knowledge of the concept.

Comments about definitions of handicaps were difficult to separate from comments that explained the existence of handicaps. Most often, children were able to give answers or elaborate on the meaning of handicaps, but resisted finding explanations for the causes of handicaps. Comments intended to answer the examiner's question of "What does handicap mean," or "what is a handicap?" were sometimes interpreted to mean, "what caused this handicap, or why is _____ handicapped?" Therefore, the following analysis will not attempt to separate comments of explanation from those of definition.

In all 120 comments were counted pertaining to this topic. Several children made more than one statement. Choosing only one to represent their definition of handicaps does injustice to their actual interview. The statements were each catalogued so that a profile analysis was possible. Table 3.2 presents the information about handicap definitions presenting the statements in columns for each target.

The Special Case of Target #5, Ricky. Target #5, Ricky, received the lowest percentage (50%) designations as a handicapped child. Only half of the children agreed they thought Ricky was a handicapped

child. Ricky also received the fewest number of comments that defined or explained handicaps, with only 13 comments or 10% of the 120 comments stated. Unlike the other target children, Ricky used no adaptive equipment and was independently mobile, although somewhat awkward. Given that references to not walking, braces, wheelchairs, walkers, broken legs, crawling and falling down were made 62 times, or 52% of all comments, it is obvious that Ricky did not fit this prevalent definition of handicaps. Ricky was observed by the sample children to be unusual in other ways. Specifically, his behavior was mentioned by most children who discussed how Ricky was different, more than handicapped. Ricky was considered "bad" by many children, for his unacceptable behavior: crying, pulling hair, taking bikes away, throwing dirt, hitting, and running out into the parking lot. In the absence of a clear evidence of handicap, children tended to judge and comment on behavior, rather than physical difference. The children who were exceptions to this general tendency noted that Ricky did not walk without some difficulty.

Ronald, who had defined handicapped as not walking for the previous two targets, at first denied that Ricky was handicapped. When asked why he reflected, "No, he can't walk enough. His leg is bent like this. (E., "Why?") I think cause he heavy he does that." Skip had announced that for him handicapped meant that you were allowed to ride the handicap bike (an adapted tricycle), that was restricted to use by the handicapped children. Thus, when asked if Ricky were handicapped, Skip replied, "No. . . yes, he is! He

rides a handicap bike!" How ironic that in attempting to protect an expensive piece of equipment designed to make it possible for limited mobility children to ride with their peers, the staff of this center had provided one child with a definition of handicaps, being able to ride a handicap bike.

Other children defined Ricky as handicapped and then changed their definition of what handicap meant. For example, April had defined for previous targets that handicapped meant not walking. When she agreed that Ricky was handicapped, she then redefined the term to mean "cries a lot." Mark got caught in the same contradiction, when trying to speak to the question of whether Ricky was different from himself. He started, "No, I just play with the boys who are not hanbi, handicap." Then he corrected himself, "Um, Um. I play with the other boys that can walk. (E., "Can Ricky walk?") Yeah, he can walk right, but I play with the other boys I do like."

In the course of her interviews, Susan had spontaneously exclaimed that, "lots of people handicap here, right?" She was then asked if she considered herself to be handicapped, and answered, "No, I can walk and run." When she was later asked about Ricky, she denied that he was handicapped but offered that he was "unlucky, cause he no handicap." For Laura, Ricky was an especially confusing target to fit into her definition of handicaps. She had ventured that handicapped meant "You're black," when talking about Benjamin (white) before. When asked if Ricky was handicapped, she replied that he was and repeated that it meant being black. The examiner then asked

her to explain how he got that way, to which Laura replied, "From running. He's not black now." And then Laura denied the examiner's second probe about whether Ricky was handicapped.

These examples illustrate how Ricky was a difficult target to fit into the most common definition of handicaps, not walking. In struggling with the contradiction between a previously stated explanation for handicaps (not walking) and Ricky's ability to walk and even run, most children chose to either redefine the meaning of handicap or deny Ricky inclusion in that group. The fact that Ricky's speech was very different from that of the nonhandicapped children was never commented on by any nonhandicapped child. More salient was his negative behavior, which to an adult was clearly related to his delayed development and autistic-like tendencies.

Handicaps Defined as Not Walking (Mobility Related). Most often children defined handicaps as not being able to walk or being able to walk only with equipment. Carol stated in a straightforward way that Jeff (#8) "goes in a wheelchair, because he's handicapped." Similar to other higher level interviews she elaborated with more description that referred to Jeff's other physical characteristics, "his feet go like this, (shows) his hand only stay like this." Ronald had agreed that Jeff was "really different" from himself and then defined his handicap by saying "He can't walk." In discussing Paula, Ronald agreed that she was handicapped, but was confused by the evidence on the photo (Paula without any braces in the sandbox) and asked the examiner, "How come she wears bracelets? No, she doesn't."

When the examiner asked if Paula wore bracelets [sic] sometimes,
Ronald replied, "the chair thing, her foots stay on," a reference
to the "parapodium" used to enable Paula to stand and sit. Jorge
described Kathy by referring to her braces, "she have, uh, another
shoes, she's got a broken leg." The examiner asked him to tell about
the shoes and he elaborated, "they're boots that come up her legs.
When she stands up she has little things right here (shows)." When
she tries to walk Jorge said, "she fall down when somebody push her."
Lulu echoed Jorge's description of Kathy's braces with these comments,
"like her shoes, her shoes. . . she got like her legs. They go up
there" (shows).

Even Benjamin, the target who not only couldn't walk, but also
exhibited spastic movements with his arms and legs, was described
as a non-walker and confined to his wheelchair or corner chair.
Skip related that Benjamin was handicapped, "cause he doesn't walk
anymore. He doesn't know how to walk." Lulu had agreed that
Benjamin was handicapped and explained that it meant, "about he can't
walk."

As table 3.2 indicated, for all targets except Ricky, the greatest
number of comments to define handicaps concerned impaired mobility.
Children noticed and described equipment associated with each
individual target, even in cases in which they did not know the name
for the equipment ("bracelets," "chair thing," "boots"). In all
cases but one the equipment described was specifically that target's
own equipment. The exception was Skip's reference to the handicap bike,

which he insisted defined who has handicapped and who was not. In holding this position he falsely indicated that Paul and Benjamin could ride it and therefore were handicapped. But even for Skip, not walking was mentioned in his first spontaneous comment about Jeff and in his later description of Benjamin.

Kathy and Paula were both noted to crawl and fall, the consequences of their ability to navigate with walkers. Children referred to several events (confirmed by teachers) in which someone had pushed Kathy down and to times when Paula had been seen squirming and crawling on the floor. Jeff's and Ricky's crooked feet were observed by some children as well.

Handicaps Defined by Reference to Physical Features. There were 20 comments describing physical characteristics of the handicapped targets which were not mobility related, but were made in response to the question, "What does being handicapped mean?" These comments represented 16.5% of all comments. The greatest single comment of this type was that Benjamin (target #4) moved, shook, and could not relax. Other children's references to physical features noted how Paula held her head to the side (Carol and April), how Jeff held his hand (Carol), and how Kathy drooled (Carol). Comments about how the targets "looked like" a handicapped child were made 6 times. Skip talked about Paula's face, "I don't like the way she looks, her face," while Steve observed that Paula, "looked different." Ronald asked the examiner about Kathy, "Does she look like a handicap?" while Lulu acknowledged her confusion about Ricky by explaining that

"he looks like he handicap, but he still walks."

Other than the references to Benjamin's moving a lot, most of these comments were made in addition to other comments about the target. Therefore they cannot be interpreted as the main explanation or definition of the term handicapped. They are important because they indicate, as in the previous section, what salient physical characteristics impress the nonhandicapped children.

Handicaps Defined as Judgments. In 9 cases, or 7.5% of the time, definitions of handicaps were said in a judgmental way. These comments were similar to those described earlier as perceptions of dissimilarities between the targets and the nonhandicapped children. As table 3.2 indicates, four of these were made about Ricky, the target whose misdeeds were powerful identifiers to the other children. Negative judgments about Paula were said by children who announced that they didn't like her, while the judgmental comments about Jeff were made by his cousin (Randy) and by Steve who referred to the fact that Jeff bites and does nothing.

Handicaps Explained by Inferences. These comments accounted for 24% of all statements on this topic. They are unique in the discussion of children's definitions of handicapped because they are based on inferences that are made in addition to the obvious physical conditions of the targets. The most common of these inferences deals with the notion that the targets' handicaps have to do with their status as babies. As table 3.2 indicates, each target except Ricky was included in this explanation. Ricky was called a baby by some

children, but in those cases his babyhood was offered as an explanation
for why he was not handicapped, and therefore these comments were
not counted as explanations for the existence of handicaps.

The confusion between babyhood and handicaps was most dominant
in Sam, a nonhandicapped child who denied that any of the targets
were handicapped but firmly indicated that for him each was a baby.
In explaining why Jeff had a wheelchair but he (Sam) didn't he re-
marked, "Because I'm not a baby." When the examiner asked him if
there were other babies in the school, after he had agreed that Jeff
was one, he named Kathy and Benjamin as other babies. (This was
prior to being interviewed about them.) Then he declared, "I'm a big
boy now. He (Jeff) is going to grow up and be a big boy. I was a
big baby before. Now he (Jeff) is, he is now. He won't grow up."
Paula to Sam was not handicapped but definitely a baby. He guessed
that she was "one" year old and explained that she was a baby because
"she crawl, she lay on her tummy. I'm bigger. (E., "Why?") She
don't want to grow up." For Benjamin, whom he described as lying
on the sand, Sam differentiated himself by claiming, "Me not a baby
anymore," and explained to the examiner that Benjamin had "diapers"
and "his mommy take care of him."

For Jorge, the explanation of "too little" answered the question
of why Paula and Benjamin couldn't walk. He refused to explain any
further in just what way being too little affected one's walking
abilities. One possible explanation for this remark is that for
Jorge smallness, like babyhood means that certain physical achievements

(walking) are not possible. Susan's interviews about Ricky and Jeff in which she described both as babies, are examples of the same joining of small size to babyhood and babyhood as an explanation for differences. For Ricky, Susan commented, "He a baby, he just big," and for Jeff, she said, "He just smally, I'm bigger than him. He handicap . . . He's a baby. Cause he cry. He keep crying every day."

Thus, the baby explanation was given in cases in which the non-handicapped children used that state as an alternative conception for the target children, and in cases in which the characteristics of the target children (diapers, crying, not walking, limited abilities) were similar to baby-like characteristics.

Other children referred to the birth of the target children without calling them babies or guessing their age in the 0 to 2 year range. Skip explained that Benjamin was unable to walk, "because he was born!" and used the same explanation for Jeff being handicapped. In both cases he acknowledged that he, too, had been a baby and unable to walk, but got no further in explaining what happened to them that didn't happen to him. Susan announced for each of the targets (except Ricky) that their handicaps happened, "because they were born," and added that "God made them that way." Her comments about the role of God and Skip's reference to birth were rare instances in which children seemed to be repeating information that an adult had taught them. They really didn't know what those explanations meant but they provided satisfying answers to the examiner's probe. Susan also indicated that she was not just parroting an adult's explanation when she observed "Lots of people here handicap, right?"

It was Steve who came up with the idea that handicaps were accident-related. He had provided extensive descriptions of the targets he considered handicapped, some of which were reasonably accurate and others that were wildly fiction. For example, with Kathy, Steve explained the existence of her handicap by this story, "First, she, she, she, she fell down and bumped her head and that's where she got a car accident . . . Her legs are hurted. No, she can't walk. Tomorrow she's going to walk. On Tuesdays." For Benjamin, Steve explained his "shaking" handicap by saying, "Maybe he jumped out the window. He cried, and that made him have shaking." (E., "Why did he jump out the window?") "Cause he wanted to see some car to see if that was OK to walk." With Jeff, Steve used the car accident story and concluded with, "He's a crummy guy, I don't know why."

Steve's strange logic also appeared in his discussion of unlucky. He defined unlucky as not getting any food or anything and applied that to all targets except Jeff, who was lucky because, "well, he had food." Thus, while accurate in his physical descriptions of the targets, Steve was one of the nonhandicapped children who "romanticized" difficult questions with answers that had some plausability, but were mostly imaginary speculations.

Laura's speculations about handicaps as racially related are another example of this tendency. She claimed that the meaning of handicaps was black (3 times, once correctly for Jeff), white, and purple, without further developing the idea, except to note for Jeff that it was, "somewhat on hisself."

<u>Special Cases Among Nonhandicapped Subjects</u>. Five nonhandicapped children were considered special cases because they were either siblings or cousins of handicapped children who attended the program, or in one case was the sibling of a deceased handicapped child who had previously attended the program. It was assumed that in their interviews some expressions of this added experience would be evident in the nature of their understanding of handicapped children. Of the five special cases one refused to participate in the interviews, leaving only four cases of this type of analyze. The number is too small to generalize the effects of such experience on one's under-standing of handicapped others.

However, it is worth noting that only one of the four cases revealed higher level knowledge and lowest percent negative ratings in the interviews. That child was the sister of the deceased child, and also was the second oldest subject (6:4) in the sample. She received the highest possible role taking score, (level 5) and an average IQ score (102). Thus, it was not possible to separate the effects of these various factors from her personal experience. In her interviews, she revealed a diverse knowledge of the indivi-dual target children that was based on more than just identification of the targets as handicapped children. That is, she exhibited knowledge of their favorite activities and friends in a way that indicated she knew them as peers, not just handicapped children. Her interviews also revealed expressions of empathy and psychological constructs that were rarely evidenced in other interviews. She explained Ricky's handicap by describing his "broken leg" but then

observed that he was different from herself in that he "cried all the time, because he's sad." Kathy's handicap was identified as a sickness that was not like a cold. She stated that Kathy would like to walk, but probably would never be able to do that independently. For Paula she admitted that being handicapped was hard for her and that Paula didn't like that, even though she was trying to learn to do more walking skills. With Jeff, she repeated the position she had earlier mentioned concerning the permanence of handicaps, stating that he would have to stay in his wheelchair even when he grew up. Benjamin's inability to control his muscle spasms were not his fault, and he had to sit in his corner chair to make himself stay "there" even though she thought being in a corner chair felt "terrible."

Evan was the twin of a handicapped child who attended the program. His interviews were distinguished by one of the strongest expressions of exclusion based on identification of handicaps. His position, "you don't play with handicapped persons," was confirmed by his total absence of any observed social behavior with any of the target children.

Lulu, the sister of target #8, Jeff, and Randy, Jeff's cousin, who lived in the same extended household, both expressed low level understanding of handicapped children. For Lulu, all handicaps involved not walking, and for both her brother Jeff and Benjamin, their handicaps were caused by their daddies. She explained for Jeff, "My daddy told him to be handicapped and the people put him in the chair, in his wheelchair and let him stay there," and for

Benjamin, "Cause his daddy told, he can't get that way, and he got that way." Randy expressed the theme of misdeeds, negative behavior and punishment very strongly. Each of the targets he described as two year olds (including Jeff) who were "bad, bad babies!" They spit, picked on their mommies, hit, and·bit. Randy summed up the meaning of handicapped (for Benjamin) by declaring, "He ain't got style."

Summary of Interviews. This chapter has described facets of the interviews that were not analyzed with statistical procedures. Topics covered were the nature of children's first spontaneous comments, the range and type of children's statements of similarities and differences noticed between themselves and the handicapped targets, and definitions and explanations for handicapping conditions. Chapter IV discusses other topics revealed in the interviews that were more appropriately analyzed with statistical procedures: the number of statements made by each child during the interviews, the percentage of these statements that were negative, the judgments of the targets' age, and the interview level.

Certain limitations in these interviews must be acknowledged. Many children demonstrated a tendency to repeat positions and statements from one interview to the next. This tendency was possibly due to the repetitions of the questions themselves, and possibly due to children's inability to make distinctions among the targets. Since not all children exhibited this tendency, especially the children who revealed a range of knowledge about the targets, this tendency

cannot be wholly the result of the repetition of the questions. Therefore, the interviews must be evaluated with this issue in mind.

Further, effects of sex were not explored. It may be that girls express more positive feelings about girls and boys about boys. The effect of the sex of the examiner was also not examined. In cases in which the child being interviewed indicated that he or she disliked the target of the interview, there was a noticeable brevity to the interview.

Some questions did not work out to be appropriate for this group of children. This was especially true of the lucky/unlucky question, which probed a concept related to probability. Children's knowledge of chance occurrences and the association of lucky and unlucky with good and bad fortune respectively, was not apparent in this group of children. A few of the older children did use the term appropriately, but there was not enough evidence of this to make any general statement.

As with the question of unlucky/lucky, the occasions in which the time scope of handicapping conditions was explored, did not prove to be worthy of future repetition. That is, younger children believed that handicapping conditions would disappear over time, on "Tuesday", "next year" or when the target was a grown-up. The older children agreed that handicaps were more enduring and less likely to disappear in the future, but these positions are more a reflection of children's understanding of time and the conservation of identity than specific knowledge of something about handicaps.

This argument might be taken a step further and applied to children's use of inferences to explain the cause of handicaps.

Younger age children speculated more romantically and imaginatively about the causes of handicaps, while the older, higher level (not always a one-to-one correspondence) children used more rational explanations for the causes of handicaps, or even took the more advanced position of not knowing. The wild inferences, the cases in which handicapped children are considered babies, or accident victims, or racially related are really instances in which children's limited functional understanding lead them into errors of over-inclusiveness or transductive reasoning. Especially typical of this are the cases in which handicaps were defined in a certain way and then the conflicting evidence denied that would counter the original position. The example of Skip rigidly holding to his position that being handicapped means riding the handicap bike, is a case of refusing to recognize the conflict that seems obvious to the adult observer. Both Forman (in press) and Furth (1980) have discussed this characteristic of children's thinking and noted how it distin-guishes the thinking of the preoperational child. The implications of the tendency in children's understanding of other children who represent divergent behavior and appearance, to make inaccurate and prelogical conclusions will be considered in Chapter V.

CHAPTER IV

RESULTS AND DISCUSSION

<u>Reliability of Interview Variables</u>

Social understanding was assessed by an interview procedure
that was scored in several ways. The simplest coding consisted of a
count of the number of statements made by each subject during each
interview. Secondly, the number of statements that were negative
judgments were counted. In both cases a mean figure was derived as
an average of the number of statements across the five targets and a
percentage of these statements that were negative. To determine the
reliability of these measures, an independent coder repeated the same
procedures for half of the interviews and the results were compared
to determine the percentage of agreement. This percentage of agree-
ment was computed by determining the number of agreements divided
by the number of agreements plus the number of disagreements, multiplied
by 100. For the number of statements, the percentage of agreement
was 95%, and for the percentage of those statements that was negative
the percentage of agreement was 92.5%.

For the scoring of the interview levels, the examiner trained
the independent coder in the use of the interview level criteria.
After training the independent coder scored interviews for 8 subjects,
which each contained 5 individual interviews for a total of 40 different
scores. Of a possible 40 scores (8 children x 5 target interviews)
there was agreement 35 times, for a percentage of agreement of 85%.

For the five cases in which there was disagreement, the examiner and the independent coder reviewed the interview transcription together and discussed their interpretation until they agreed upon a level.

Testing of Hypothesis 1

To test the hypothesis that nonhandicapped children with higher level social understanding will engage in more frequent positive social behavior with handicapped classmates, while nonhandicapped children with lower level understanding will engage in less frequent positive social behavior with handicapped classmates, the nonhandicapped children who had been observed in social interactions with handicapped children were interviewed to determine their level of social understanding concerning five of the eight children with whom they had interacted. Social understanding was assessed by several scoring procedures used with the interviews: 1) an overall interview level, which represented degree of differentiated, specific, relatively accurate description of the handicapped target children; 2) age guess, a measure of the nonhandicapped children's ability to determine the age and status (as a baby, baby/kid, or kid) of the target handicapped children; 3) total number of statements, a count of the statements made in the interviews about the five handicapped children, representing the extent of conversation in the interviews; and 4) the percentage of the statements about the target handicapped children that were negative, representing the degree of negative affective judgments expressed by the nonhandicapped children. No single measure of understanding was chosen since the purpose of this study was to explore various

facets of social knowledge (previously unexplored) that might be related to social behavior.

To measure social behavior, eight target handicapped children were observed in social interaction during free play periods in classrooms and out of doors to determine the frequency and types of social behaviors that involved nonhandicapped children. Social behaviors were scores of the 1) total number of acts (nonhandicapped children initiating social behaviors to handicapped target children) and total number of received, (nonhandicapped children receiving behaviors initiated by target handicapped children); 2) percentage of these acts that were sociable, nurturant, aggressive, succorant and dominant, and percentage of these received behaviors that were sociable, nurturant, aggressive, succorant and dominant; 3) percentages of these acts and received that were cases of the individual behaviors measured by the Naturalistic Observation Tool, (talks with, greets, touches, offers object, gives object, imitates, rough-houses, assists, gives affection, gives comfort, teaches, praises, follows, questions, seeks help, shows, boasts, hits, takes object, restrains, insults, mocks, commands and demands); 4) frequency that a command by a handicapped target child was complied to by a non-handicapped child, and frequency that a command by a nonhandicapped was complied to by a handicapped child, and 5) frequency of proximity (within 4 feet) between nonhandicapped and handicapped children, and watching, between handicapped and nonhandicapped children.

The eight target handicapped children were observed for a mean of 85.5 minutes each, with a total observation time of 684

then correlated. Before correlations between social understanding and
social behavior are reported, information on mean scores are reported
(See table 4.1).

Mean Scores on Social Understanding Interview. The mean scores for the
sample (n=17) of nonhandicapped children who participated in the inter-
views were 1.6 for interview level, 2.3 for age guess, 71.7 for number
of statements and 19.3 percent for percentage of negative statements.
Scores on the interview level ranged from 1 to 3 with 3 representing the
highest possible score. For the age guess measure, scores ranged from
1 to 3 with 1 representing a judgment that the target was a baby, 2
representing a judgment that the target was both a baby and a kid, and
3 representing a judgment that the target was exclusively a kid. Using
a Pearson product-moment correlation, among these four scores there were
some statistically significant correlations: interview level was posi-
tively related to number of statements (r = .43, p = .04),[6] age guess was
inversely related to the number of statements (r = -.40, p = .05), and
age guess was inversely related to the percentage of statements that
were negative (r = -.37, p = .07). The interview level was also signi-
ficantly related to the sex (boys = 1, girls = 2) and age of the sample
(for sex/interview level, r = .65, p, = .003; for age/interview level,
r = .40, p = .06). Ten boys and seven girls were interviewed with a
mean age of 5:5 years. Although the mean age of the seven girls inter-
viewed was higher (5:4 years) than the mean age of the ten boys (4:9
years), and girls were significantly higher than boys on the interview

---

[6]All statistical results reported are based on two-tailed tests.

Table 4.1

Means for Interview Level, Age Guess, Number of Statements,
Percent Negative Statements, and Correlations between
Types of Positive Social Behaviors and Measures
of Social Understanding

Social Understanding	X̄	SD
Interview Level (n=17)	1.6	.6
Age Guess (n=17)	2.3	.7
Number of Statements	71.7	20.7
Percent Negative	19.3	10.6

Correlations between Measures
of Social Understanding and
Types of Positive Social
Behaviors (Pearson's r) (n=13)

	Interview	# Statements	% Negative	Age Guess
Interview	1.00			
# Statements	.43*	1.00		
% Negative	-.13	.05	1.00	
Age Guess	.04	.40+	-.37+	1.00
Acts	-.23	.04	-.41*	.21
Sociable	-.40+	.02	-.21	.41
Nurturant	.29	-.13	-.54*	.18
Succorant	.14	.22	.33	-.55*
Talks With	-.48*	-.66**	.06	.33
Greets	-.26	-.43+	-.43+	-.12
Touches	-.37	.03	.08	.17
Offers Object	.19	-.01	-.44+	.51*
Gives Object	-.20	.12	.13	.34
Imitates	-.01	.52*	-.03	-.12
Assists	.26	-.18	-.50*	.16
Affection	-.18	.10	.05	.04
Teaches	.59*	-.09	-.48*	.27
Praises	-.09	.19	-.01	-.12
Questions	-.09	.44+	.01	-.12
Boasts	.16	.10	.32	-.52*
Is Compliant	.12	-.35	.61*	.70**

Note: All tests of significance are two-tailed
+ p < .10   ** p < .01
* p < .05   *** p < .001

level, further analysis was not possible, with the small number of cases.

Mean Scores on Social Behaviors. The mean scores for social behaviors initiated and received by the nonhandicapped children to the target handicapped children are reported in Table 4.2. Of the possible 21 nonhandicapped children, 4 initiated no social behaviors to the target handicapped children (defined as acts) and 1 child received no social behavior from any of the eight target handicapped children. Frequency of acts ranged from 0 (n=4) to 9 (n=1) with mean number of acts being 3.2. Categories of proximity, watches and compliance were excluded from the acts category. Frequency of social behaviors received ranged from 0 (n=1) to 14 (n=1) with the mean number of behaviors received being 5.1. The mean number of times nonhandicapped children were in proximity (within 4 feet) to any of the handicapped target children was 5.0, and the mean number of times nonhandicapped children watched handicapped children was .3. Nonhandicapped children were watched by handicapped children an average of 3.0 times. These frequencies occurred during 228 three-minute intervals of observation time. Behaviors could be scored only once during each 3 minute interval.

Compliance versus noncompliance by a handicapped child to the commands of a nonhandicapped child (computed by dividing the number of times compliance occurred by the number of times compliance occurred plus the number of times noncompliance occurred) involved 14 children in the sample, who on the average were complied to 31.0% of the time. The nonhandicapped children complied to the commands of the handicapped children (n=6) an average of 50% of the time.

Correlations between Measures of Social Understanding and Types of
Positive Social Behaviors. Correlations (Pearson's r) were performed
only in cases in which nonhandicapped children had been interviewed
and exhibited acts of positive social behavior. Thus, the number of
cases for these correlations was reduced to 13. Even with this small
sample there were some significant correlations. The behaviors
chosen to represent positive social behaviors were those considered
sociable, nurturant, succorant and compliant (talking with, greeting,
touching, offering and giving objects, imitating, assisting, giving
affection, teaching, praising, questioning, boasting, and being
compliant to). Table 4.1 shows which behaviors correlated significantly
with the measures of social understanding.

Significant positive correlations occurred with interview level
and teaching behavior (r = .59, p = .02), number of statements and
imitative behavior (r = .52, p = .03), number of statements and
questioning behavior (r = .44, p = .06), with age guess and offering
objects, (r = .51, p = .04), and with age guess and compliance
(r = .70, p = .006). Significant negative correlations occurred
with interview level and sociable behavior (r = -.40, p = .09), inter-
view level and talking (r = -.48, p = .05), number of statements and
talking, (r = -.66, p = .005), age guess and succorant behavior
(r = -.55, p = .03) and with age guess and boasting (r = -.53, p = .03).

The measure of percent negative statements (a high score
indicating a high percent negative) correlated inversely with nurturant
behavior (r = -.54, p = .03), with offering objects (r = -.44, p = .07),
with greeting behavior (r = -.42, p = .07), with assisting,

($\underline{r}$ = -.50, $\underline{p}$ = .04) with teaching behavior ($\underline{r}$ = -.48, $\underline{p}$ = .05) and
with compliance behavior ($\underline{r}$ = -.61, $\underline{p}$ = .02). There were no positive
correlations between percent negative and any type of positive social
behaviors.

Discussion. In order for the data from this study to support this
hypothesis, that positive social behavior would occur less fre-
quently among children scoring lower on measures of social under-
standing, significant positive correlations should occur between the
interview level, number of statements, and age guess measures and types
of positive social behaviors, and significant negative correlations
should occur between the percent negative measure and the types of
positive social behaviors. As measured by the interview level,
number of statements and age guess, social understanding correlated
with the frequency of teaching behavior, imitative behavior, ques-
tioning behavior, offering of objects and compliance to requests by
handicapped children. These results do support the hypothesis that
specific frequencies of types of positive social behaviors will be
related to measures of social understanding. Contrary to this
hypothesis are the negative correlations between interview level and
overall sociable behavior, and talking; between number statements
and talking; and between age guess and succorant behavior, and
boasting behavior. Children with lower level interview scores did
not engage in significantly less sociable behavior, specifically
talking, according to these findings. In fact, the opposite was true.
Further, children who talked less about the handicapped targets during

the interviews did not talk less often with those same children. Children with high scores on the age guess measure, indicating a correct knowledge of the age of the handicapped target children, did not seek out handicapped children for succorant behavior, that is, behaviors signalling the need for attention, help, and answers to questions. A specific type of succorant behavior, boasting, was also negatively correlated with the age guess score, meaning that the children who demonstrated an accurate knowledge of the age of the handicapped children boasted to them with less frequency than children with lower estimations of the ages of the handicapped children.

The correlations involving the percent negative measure of social understanding and types of positive social behaviors were, as predicted, inversely related for the following behaviors: nurturance, offering objects, greeting, assisting, teaching and compliance. Thus, more nurturance, offering of objects, greeting, assisting, teaching and compliance were observed in children who had fewer negative statements in their interviews. These findings suggest that the relationships between frequencies of positive social behaviors are more related to negative judgments about the handicapped children than to the interview levels, the age guess scores, and the total number of statements used in the interviews, and that overall, these other three measures of social understanding chosen to test this hypothesis offer no strong predictive value in explaining the variance in the frequency of children's positive social behaviors (as defined here) directed at handicapped classmates. Even the significant correlations are in the low and moderate range, and of the two most significant correlations,

one involves a negative relationship between the number of statements and the frequency of talking with the target children, contrary to the hypothesis. Hypothesis 3 pursues the relation between negative affective judgment and all forms of social behavior measured in this study in more detail.

The correlations among the four measures chosen to indicate social understanding reveal that these four measures interrelated in somewhat contradictory ways. Number of statements was significantly positively related to interview level, but significantly inversely related to the age guess measure. That is, children identifying the targets as babies tended to make more statements in their interviews; and more statements in interviews tended to be related to higher scores on the interview levels. This may be explained by the fact that the distribution of children into interview levels had only 2 cases at the highest level. The measure of percent negative correlated inversely with the age guess measure, meaning that children with highly negative judgments were likely to identify the targets as babies.

Several explanations are possible for the findings of only moderate or no relations between forms of social behavior and measures of social understanding. First, the frequencies of observed social behaviors were generally low, with large variations in the individual scores, making the likelihood of significant correlations with understanding less possible. That the frequencies of social behaviors between handicapped and nonhandicapped children were low may be related to the way in which social behaviors were coded (30 possible behaviors during 3-minute intervals), to the total population size at this

location (21 nonhandicapped children and 20 handicapped children), or to some subtle dynamic in the social behavior between handicapped and non-handicapped children that is not reflected in the measurement of social behaviors. The present coding of social behaviors did not differentiate the qualities of interactions that were "successful" from those that were "unsuccessful." More detailed analysis, perhaps using videotaped behaviors, may specify the components of social behaviors that promote more frequent social interaction.

Secondly, there were eight cases of missing data in this analysis, leaving only 13 subjects with scores on both measures of social understanding and social behavior to correlate. Four children were interviewed but exhibited no social behaviors. Each expressed highly negative opinions about handicapped children. Their interviews are reviewed in detail in the discussion of Hypothesis 3, concerning the relation between negative affective judgments and all forms of social behavior. There were four children who refused to be interviewed. Three of the four were boys, which may have contributed to their un-willingness to participate. The fact that the examiner was a female also may have been a factor. The child with the highest frequency of acts (n=9) was one of the four who refused to be interviewed. It is possible that he had heard from the other children what the subject of the discussion was, and was unwilling to participate due to that. He also happened to be the brother of one of the targets, and this may have been a factor. Two of the remaining three children refusing to be interviewed had only one behavior each involving a target child, while the fourth subject refusing to be interviewed engaged in four social

interactions with targets.

Finally, given that the strongest relations emerged between the measure of negative affective judgments and forms of social behavior, and that previous studies found similar low rates of social interaction, the findings of Hypothesis 1 do not appear too surprising.

Testing of Hypothesis 2

Hypothesis 2 states that children who describe their handicapped classmates as younger from themselves will engage in infrequent peer-like social behavior, and that children who describe their handicapped classmates' age more accurately will engage in more frequent peer-like behavior. The behaviors chosen to represent peer-like social behavior are talks with, greets, gives object, imitates, hits, takes object, restrains, and insults. Behaviors chosen to represent less frequent peer-like behavior are offers object, commands act, demands, questions, boasts, praises, teaches, assists, gives affection and touches. These behaviors were chosen on the basis of the research done by Whiting and Whiting (1975) that demonstrated that the status of the target of the behavior (as a baby, peer, or adult) was predictive of the type of social behaviors exhibited, in six diverse cross cultural sites. The behaviors directed at peers, in order of frequency, were those judged sociable (defined as acting sociable), aggressive (defined as assaulting, insulting and horse play), and pro-social (defined as suggesting responsibly, and reprimanding). Less frequently associated with peers were behaviors defined as dominant/dependent (seeking dominance, and seeking attention), nurturant, and intimate/dependent

(specifically touching and seeking help) (Whiting & Whiting, 1975).

Presumably, those children who considered the handicapped targets as peer-aged (thus receiving a high score on age guess) would behave with them as peers behave, and those children who considered the handicapped targets as baby-like (thus receiving a low score on age guess) would not behave with them in peer-like ways. To test this in the present study, scores of age guess were correlated with the social behaviors observed in interactions between handicapped and nonhandicapped children, using only the acts initiated by the nonhandicapped children. Table 4.3 presents the correlations of social behaviors and age guess.

As can be seen in Table 4.3, there was only one significant correlation of social behaviors more frequent with peers and age guess. The significant correlation involved insulting and age guess (r = -.51, p = .04), a finding that is contrary to the prediction of this hypothesis. Low age guess, representing a judgment the targets' age as baby-like (0-2 years), was associated with higher frequency of insulting. In the Whitings' (1975) study, aggressive behaviors, including insulting, were also directed to infant/toddlers, although nurturant behaviors were more often directed to infant/toddlers than aggressive behaviors. Thus, this finding of a negative association between insulting and age guess can be said to support the Whitings' findings that children insult infant/toddlers, but not their finding that children insult peers more than they insult infant/toddlers.

The other behaviors correlated with age guess (talks with, giving objects, and hitting) were in the direction of the prediction but of low magnitude. Other correlations in the opposite direction of the

Table 4.3

Correlations (Pearson's r) with Age Guess
and Social Behaviors
(n=13)

Behaviors More Frequent with Peers	Age Guess	Behaviors Less Frequent with Peers	Age Guess
		Offers Object	.51*
Talks	.33	Commands Act	.31
Greets	-.12	Demands Object	.31
Gives Object	.34	Questions	-.12
Imitates	-.12	Boasts	-.52*
Hits	.28	Praises	-.12
Takes	-.01	Teaches	.27
Insults	-.51*	Assists	.16
(Restrains)	0	Gives Affection	.04
(Mocks)	0	Touches	.18
(Roughhouses)	0	(Shows)	0
		(Comforts)	0
		(Requests Help)	0
		(Follows)	0

Note: All tests of significance are two-tailed.

*p < .05

prediction were between age guess and greeting, age guess and imitating; while the correlation between age guess and takes objects indicated no relation.

Of the behaviors less frequently associated with peer-like conduct, there were two significant correlations. One involved age guessing and boasting, (r = -.52, p = .03), and demonstrated that lower age guess was related to higher frequency of boasting. In the Whitings' findings, boasting, considered a form of dominant/dependent behavior, was also less often associated with interactions between peers and more often found in interactions between parents and children. Of the six types of behaviors associated with infant/toddlers, dominant/dependent was the second least infrequent.

The second significant correlation of behaviors less frequent with peers and the age guess measure, was a positive correlation between offering objects and age guess (r = .51, p = .04). This correlation demonstrates that children who judge the handicapped targets' age as peer-like frequently offered them objects and is in the opposite direction of the prediction of this hypothesis. There was also a slight negative relationship between questioning, praising and age guess, which is in the direction of the hypothesis. The other behaviors chosen as less frequently associated with peer-like behavior correlated in the opposite direction of the hypothesis, or showed little relationship.

Discussion. Although the author had observed that nonhandicapped children often classify handicapped children as babies, there was no previous research which suggested how this might relate to social behaviors with

handicapped children. The Whitings' study showed that nurturance was the most likely behavior exhibited by young children in the presence of infant/toddlers, and Edwards and Lewis (1979) found that children under 2 were the least favored social objects among peers, infant/toddlers and adults. In this study children who judged the targets as infant/toddlers (n=2) or children who judged the targets as both infants/toddlers and kids (n=5) did not exhibit behavior that was in any major way different from those who judged the targets as kids only (n=6), with the exception of insulting and boasting (more to babies) and offering objects (more to kids). The results of the correlations are generally not supportive of the hypothesis that judgment of the targets' age will be related to the frequency of normal peer-like behavior, as defined in this study. It appears that the children who identified the targets as peers saw them as fragile, needing direction, appreciating objects and not worthy objects of boasting. These social behaviors (insulting, boasting and offering objects) occurred frequently in handicapped/nonhandicapped interactions (first, fifth, and eighth in frequency rank, respectively). This analysis suggests that handicapped children, even when judged to be peer-aged, elicit and receive social behavior that is different from typical peer behavior.

Some of the children chosen as targets were quite large in size and/or older than the mean age of the nonhandicapped children (5:0). The mean age of the eight targets with whom the nonhandicapped chidren interacted was 7:3 years, and for the five targets used in the interviews, mean age was 7:1 years. Those who judged the targets as both

babies and kids could be reflecting a possible contradiction between the size of the target children, mostly quite large in comparison to the nonhandicapped children, and the evidence of baby-like behaviors, such as crying, wearing diapers, being fed by adults, crawling, not being able to walk, sitting in strollers, and needing to be taken care of. Thus, these targets are neither fully babies because of their size, nor fully kids, because of their baby-like behaviors. The results of this study do not provide sufficient data with which to speculate on the results of such mixed attributes. According to Edwards and Lewis (1979) size is usually associated with older age, which therefore may be a confounding factor in this case.

Testing of Hypothesis 3

The relationship between negative affect and social behavior was explored in Hypothesis 3, which stated that children with a highly negative expression of affect toward handicapped classmates would engage in low frequency negative social interactions; and that children with high positive affect towards handicapped classmates would engage in positive social interactions. Thus, for the data to support this hypothesis, they should demonstrate that a score on percent negative correlated inversely with frequency of acts; non-significantly with specific types of negative social behaviors; and that a score on percent negative correlated inversely with frequency of acts that are positive. Table 4.4 presents correlations of negative affect with types of social behaviors.

The results indicate that the measure of negative affect

correlated significantly with several types of social behaviors considered positive (greeting, r = -.43, p = .07; offering objects, r = -.44, p = .07; assisting, r = -.50, p = .04; and teaching, r = -.48, p = .04), with overall frequency of acts (r = -.41, p = .05) and with the measure of compliance by the nonhandicapped children to requests or demands from the handicapped targets (r = -.61, p = .02).

The direction of all the significant correlations was negative, indicating an inverse relation between level of negative affective judgments and the above behaviors. Children with high scores of negative judgments about their handicapped classmates engaged in significantly less behavior of all kinds. Forms of sociable (greeting and offering objects) and nurturant (assisting and teaching) behaviors correlated with scores of negative affect, while other forms of sociable (talking with, touching, and giving objects) and nurturant (giving affection) behaviors had little or no relationship with negative affect. Succorant behaviors (r = .32) showed insignificant relation to negative affect, possibly a reflection of the lower frequencies that succorant behaviors were exhibited, or possibly a reflection of a true lack of relation.

None of the negative social behaviors (those either aggressive or dominant) showed significant correlations with the scores of negative affect. With the exception of hitting (r = -.06) and takes objects (r = -.20) the relations were in the direction predicted (positive) and of no significance. Compliance (measuring how often a nonhandicapped subject agreed to demands by a handicapped target) was correlated inversely with negative affect, indicating that higher scores of

Table 4.4

Correlations (Pearson's r) with Negative Affect
and Social Behaviors, (n=13)

Social Behaviors Considered Negative	% Negative	Social Behaviors Considered Positive	% Negative
Total Aggressive	.24	Total Sociable	-.21
Hits	-.06	Talks with	.06
Takes Object	-.20	Greets	-.43+
Insults	.43	Touches	.08
		Offers Object	-.44+
Total Dominates	.19	Gives Object	.13
Demands Object	.13	Imitates	-.03
Commands Act	.16		
		Total Nurturant	-.54*
Compliance		Assists	-.50*
Is compliant to		Gives Affection	.05
Request by H	-.61*	Teaches	-.48*
Total Acts	-.41*	Total Succorant	.32
		Questions	-.01
Total Receives	-.10	Boasts	.32

Note: All tests of significance are two-tailed.

+p < .10
*p < .05

negative affect were related to lower scores of compliance, as expected.

Discussion. The findings of the above correlations indicate support for the hypothesis that negative affect is related to the frequency of positive social behaviors. The measure of negative affect was determined by a conservative procedure that excluded remarks about the dissimilarity and status of the targets. Included were only the clear expression of definite dislike and judgments about the badness of the targets. The range of negative scores was from a low of 1% to a high of 39%. The procedure of considering the percentage of all statements that were negative as an index of negative affect was derived from Davidson (1976), who examined prejudice and its relation to Kohlberg's moral stages. Neither Davidson nor the present author considers the score of negative affect to represent prejudice in the adult sense. Davidson found that the negative affect score was significantly inversely related to Kohlberg's moral stages and suggested that moral stages were reflective of children's abilities to respect other persons, who in the case of her study, were ethnically or racially dissimilar from the subjects. The subjects with the lowest stages of moral development had the highest levels of negative comments. While the present study concerned a much smaller range of ages, and thus could not possibly represent a range of moral stages, there was still a significant relationship with the frequency of behaviors (acts) and level of negative comments. Whether this indicates a respect for others, as Davidson concludes, or whether it indicates a tendency of young children to disparage that which is dissimilar cannot be proved by the measures employed in this study. There was a moderate inverse

correlation between the measure of age guess and negative affect (r = -.37, p = .07) and between the measure of role taking and negative affect (r = -.39, p = .06), and a moderate positive correlation between negative affect and watching (r = .39, p = .06). These correlations suggest the profile of a child with a high degree of negative affect who demonstrates a low level ability to take the perspective of another, who guesses that the handicapped children are younger in age than they are, and who spends an above average amount of time engaged in watching handicapped children, but a less than average amount of time actually engaged in behavior with them. Clearly, paying closer attention to the behavior of handicapped children (as the measure of watching indicates) does not accomplish an increase in understanding that observed behavior. While watching handicapped children did provide subjects with more to say about the handicapped children (as the correlation between watching and number of statements, (r = .58, p = .006, suggests) the incidence of watching does not suggest a relationship to understanding (r = .15)', as measured in the interview levels.

Finally, the results do indicate that the level of negative feelings was related to the incidence of positive social behaviors, specifically greeting, offering, assisting and teaching. Although the procedures of this study do not permit a comparison between this relationship and that of nonhandicapped children's social behaviors to other nonhandicapped peers, it is presumed that the same tendency would be likely, i.e., that positive social behavior is bidirectionally related to the degree of negative affect, in any peer social interaction. What is different about this relation between negative affect and social

behavior is the pervasiveness of the negative affect. The occasions on which a subject spoke positively, rather than judgmentally, of the handicapped targets, were rare. The interviews indicate that the occasions for such negative judgments were often the discussion of dissimilarity between the subject and the targets. Although the procedures chosen to study the relation between negative judgments and social behaviors did not include a measure of dissimilarity (with the exception of age guess as some indication of similarity) the conclusion of early peer studies (Mueller & Lucas, 1975) is that similarity in identity and reciprocity within interactions is a cornerstone of peer interactions. Implications of this point will be discussed in Chapter V.

Further confirmation of the strength of the relation between negative judgment and social behaviors may be indicated in the interviews of the four children who engaged in no acts. One of these children (a twin of a severely handicapped child) repeatedly identified the handicapped targets as handicapped, and stated in each case that "you don't play with handicapped children," a rule that he held to consistently. The interview of the second child with no acts was notable in the number of statements (106, the second most in the sample), and the negative affect score (38%, again the second highest). Further, his explanations for the causes of handicaps were wild speculations involving falling, jumping out of windows, and car accidents, and he invoked the bad baby identity for 4 of the 5 target children, the fifth being called a "crummy guy." He also described 4 of the targets as "fighters," perhaps suggesting his own fears that they might hurt him or his desire to

hurt them. He could think of no similarities between himself and any
of the targets. The two other subjects who were interviewed but exhi-
bited no social behaviors to the target children associated race and
dirtiness incorrectly with the targets. The child who associated race
with the targets considered four of them black, and one of them purple,
and also described an incident in which her hair had been pulled out
(confirmed by teachers) by one of the targets. She firmly stated that
each of the targets was different from herself. The fourth child inter-
viewed with no acts gave very little information in her interviews, other
than the notion that the targets were dirty, laughing (perhaps mocking
her, or a reference to the expressions in the pictures), unlucky, dif-
ferent, and bad.

Testing of Hypothesis 4

Hypothesis 4 suggested a relation between role taking ability and
other forms of social understanding, and a relation between role taking
ability and forms of social behavior. It was hypothesized that high role
taking ability would correlate with high levels of understanding; fur-
ther, level of role taking ability was hypothesized to be predictive of
children's social behavior with handicapped children. Table 4.5 presents
the relevant information regarding Hypothesis 4.

The results for the sample indicate that role taking ability was
moderately related to measures of social understanding. The only
measure of social understanding that failed to attain a level of sta-
tistical significance was the number of statements measure. Interview
level correlated with role taking (r = .36, p = .07) in the direction

Table 4.5

Correlations (Pearson's r) of Role Taking Ability
with Social Understanding Measures and Social
Behaviors, (n=13)

Social Understanding	Role Taking	Social Behaviors	Role Taking
Interview Level	.36+	Total Sociable	-.22
# of Statements	-.17	Talks with	-.34
% Negative	-.39+	Greets	-.32
Age Guess	.49*	Touches	-.45*
		Offers Object	.59**
Social Behaviors		Gives object	.01
		Imitates	-.31
Acts	.22	Total Nurturant	.27
Receives	-.19	Assists	.14
Compliance	.45+	Gives Affection	.31
		Teaches	.45*
		Praises	.07
Social Behaviors			
Total Succorant	-.11		
Boasts	-.12		
Total Aggressive	-.26		
Hits	.07		
Takes Object	.04		
Insults	-.37+		
Total Dominant	.26		
Commands Act	.29		
Demands Object	-.18		

Note: All tests of significance are two-tailed.

+p < .10   *p < .05   **p < .01

predicted, as did the percentage negative measure (r = .39, p = .06). The final measure of social understanding, age guess, also was related positively to the role taking measure (r = .49, p = .02).

There were few significant correlations between role taking ability and forms of social behavior, as Table 4.5 shows. None of the behavioral systems were highly related to role taking ability, nor was the overall rate of acts or received. Compliance by nonhandicapped children to requests from handicapped targets showed a slight significant positive relation to role taking (r = .45, p = .06). The other specific behaviors that related to role taking were teaching (r = .45, p = .05), insulting (r = -.37, p = .09), touching (r = -.45, p = .05), and offering (r = .59, p = .01). The correlation with touching is in the opposite direction of the prediction of Hypothesis 4, while those with offering objects, teaching, and insulting are in the direction of the prediction. It seems unclear why the correlations with touching occurred in the opposite direction from the prediction.

Discussion. The measure of role taking, a hiding and guessing game, was administered to 17 children in the sample. It was a competitive game in which the child was scored for ability to take the point of view of the opponent and to think about what strategy the opponent might use. Lowest level playing was assumed to indicate that the subject was unable to think about the game from the point of view of the opponent. In this sample, the mean level of playing the role taking game was 2.4, from a range of 1 to 5. Only three subjects attained the highest possible level of role taking. This fact, and that of the low frequencies of social behaviors of all kinds, make it difficult to assess the

importance of the findings of the modest correlations between role taking and social behaviors, and role taking and other measures of social understanding. While role taking does seem to be related to the other measures obtained in the interview procedure (interview level, percent negative, and age guess), what is more significant is that the measure of role taking is highly related to the age of the subjects. The correlation, is in fact the highest of any two variables measured in the study (r = .88, p = .001). Thus, the role taking measure has an extreme relation to the age of the children studied, a modest relation to the other measures of understanding of handicapped classmates, and a slight relation to some of the social behaviors, including those one expects to be prevalent with handicapped children, i.e., teaching and insulting. Teaching, however, did not occur in this sample to any great degree (ranking 16th in frequency) while insulting was the single most frequent behavior displayed to handicapped classmates. The other behaviors that role taking correlated with, touching and offering objects, were ranked eighth and ninth in frequency.

Therefore, it cannot be said that the results from the data concerning role taking and social behavior completely support the predictions of Hypothesis 4. The results do suggest a relationship between role taking and other forms of social understanding.

The measure of role taking itself bears some scrutiny. As a measure of thinking about what one's opponent is thinking in a competitive situation, a case of simultaneous decentration (Rubin, 1977) it does seem to discriminate. The question remains, though, of what this ability has to do with interactions with other people.

Most social interactions do not occur in a competitive mode, with strategizing called for. Higher scores in this game occur when the player prevents an opponent from winning by deceiving the opponent, by various tricks of keeping a straight face or deliberately misleading. It is possible that children who do not achieve high levels of role taking as measured in this procedure are less schooled in competitive behavior, not just an ability to think about what one's opponent is most likely to do.

Further, DeVries (1970) found that chronological age significantly related to the performance on the same role taking task in subjects of above average and average IQ (measured by Stanford-Binet Intelligence Test), but not in lower than average IQ subjects. While the IQ scores of this sample were quite skewed, and ranged from 44 to 121, with a mean of 88.8 and standard deviation of 20.1, the relation of IQ and role taking in this study was complex. The correlation (Pearson's r) between the two measures was $r = -.19$, $p = .23$. This is not surprising, in that the subject with the highest IQ (121) obtained the lowest possible role taking score (1), while the subject with the highest possible role taking score (5), received the lowest IQ score (44) in this sample. DeVries' (1970) and Rubin's (1977) finding of a significant correlation between the role taking measure and chronological age was confirmed in this study.

As it will be seen in the section on additional results, chronological age did affect a number of measures employed in this study, besides the one of concern here. At this point what seems

to matter is that age correlated with role taking and role taking interacted with the other measures of social understanding, but not to any great degree with forms of social behavior.

Testing Hypothesis 5

A relationship between IQ, role taking, and social understanding was predicted in Hypothesis 5; specifically that levels of verbal IQ would correlate with levels of role taking ability and scores on other measures of social understanding. Mention was made in the discussion of Hypothesis 4 of the range of IQ scores and of the nature of their relation to role taking. For analysis of this hypothesis, the results of the correlations between the predicted variables are printed in Table 4.6.

Table 4.6

Correlation (Pearson's r) of IQ and CA with Role
Taking Ability and Measures of Social
Understanding (n=17)

	IQ	Chronological Age
Role Taking Ability	-.19	.88***
Social Understanding		
Interview Level	.29	.40 +
Number of Statements	.20	-.06
Percent Negative	-.16	-.19
Age Guess	.12	.24

Note: All tests of significance are two-tailed.
+ p < .10   *** p < .001

The hypothesized relationship between IQ and role taking and other measures of social understanding is not confirmed by the results of data presented in Table 4.6. There were no significant correlations of any measures related to this hypothesis. As the discussion in the previous section revealed, the range of IQ scores was great, with an inverse relation occurring for the highest and lowest IQ scores with the role taking scores. This most probably accounts for the modest inverse statistical relation indicated for IQ and role taking. Thus, IQ scores are not predictive of role taking or measures of social understanding in the case of the present study.

The particular measure of IQ chosen for this study was the Peabody Picture Vocabulary Test. Possibly several of the Hispanic children scored less than their optimal performance on this measure, even though all of the Hispanic children spoke English during school time. One case in particular, that of the Hispanic subject who scored the lowest on the IQ measure (44) and the highest on the role taking measure, suggests that the measure of IQ chosen may not have reflected his genuine verbal ability. The role taking measure was basically a non verbal game, so even though, in this particular case, it seems unlikely that such a complete inverse relation would occur, it may indicate that role taking (in this procedure) and verbal intelligence are basically unrelated skills. This was Rubin's (1977) prediction in his study of the discriminant and convergent validity among various role taking measures, and was borne out in his results. He also used the PPVT as a measure of verbal intelligence and found that chronological age was the most significant predictor among the six role taking measures

he studied.

Testing of Hypothesis 6

The final predicted hypothesis concerned the effects of being a sibling or kin relation to a handicapped child. There were five such children among this particular sample. Unfortunately, only four of the five were interviewed and of the four interviewed only three exhibited any social behaviors involving handicapped children. Thus, the statistical procedures used to test Hypothesis 6 involved three cases of sibling/kin status, and 10 cases of the absence of sibling/ kin status, in which measures of social understanding could be correlated. It was assumed that a sibling or kin relation (in this case living in the same household) would demonstrate a higher level of social understanding and a higher positive expression of affect. There were no statistically significant relations between any measures of social understanding (interview level, number of statements, negative affect, and age guess) and sibling / kin status. While the data from this study did not support this prediction, the reader is referred to the analysis of the interviews in Chapter III for a case presentation of the interviews with siblings and kin of handicapped children.

There were three statistically significant correlations between sibling/kin status and forms of social behaviors (n=17). These correlations involved insulting (r = .35, p = .08), offering objects (r = .45, p = .03) and the received sociable behaviors of all kinds (r = .31, p = .09). These findings indicate that sibling or kin status moderately increases the likelihood of insulting and offering objects to

handicapped targets, and to being chosen as an object of sociable behavior by handicapped targets. Future studies should pursue this finding with a larger sample to confirm or reject this relationship.

Additional Results

There were additional significant relations between measures of social understanding, role taking, sex, age and social behaviors recorded in the naturalistic observations that were not predicted in the hypotheses of this study. There were also some significant relations between forms of social behaviors enacted by the subjects and forms of social behaviors received from the handicapped targets of this study. Although unpredicted, these relationships are of interest to the questions of this study. Especially in that this study was an exploratory effort, the role of unexpected results is important in determining the course of future study of these issues, and the relationship of this study to previous works on social interaction in integrated settings.

Social Behaviors.

Data. Frequencies of forms of social behaviors initiated and received by the nonhandicapped subjects of this study were previously reported in Table 4.2. Table 4.7 again reviews the frequencies of forms of social behaviors but adds a body of data from a nonmainstreamed setting that was measured using the same Naturalistic Observation Tool. The results are presented in rank order of frequency so that the reader can observe differences among behaviors received and behaviors initiated with the frequencies of behaviors exhibited by nonhandicapped

children. Further, Table 4.8 presents the frequencies of behaviors observed by the status of the participant as either a nonhandicapped child, a handicapped child or a teacher.

The figures in the third column of Table 4.7 must be considered with the caution that they represent a sample that in ways other than being a nonmainstreamed setting, were possibly significantly different from the present sample. For example, the mean age of the nonmainstreamed sample was slightly younger (4:8 years versus 5:0 years for nonhandicapped children), and represented a university based laboratory school setting, which presumably included more middle and upper class families in its population that did the mainstream sample. Most importantly, there is no means of assessing reliability between the two bodies of data to determine the consistency with which definitions of social behavior were applied in coding. Thus, the differences in frequencies of behavior systems and specific behaviors can only be suggestive of future research, rather than explanatory in this study.

The findings in Table 4.8 may be helpful in explaining the findings in Table 4.7. Specifically, in knowing that 73% of all behaviors received by handicapped targets is that from teachers, it is possible to speculate that either nonhandicapped children were less involved in interactions with handicapped children because teachers were already interacting with them, or that teachers interacted with handicapped targets because nonhandicapped children were not interacting with them.

Table 4.7 enables one to select the social behaviors most frequently engaged in with handicapped children and to compare the

Table 4.8

Frequency of Acts and Received by Status
of Participants

	NH→H	NH←H	Other H→H	Other H←H	T→H	T←H
Sociable	23.3	24.6	ˌ36.0	44.1	32.4	45.3
Nurturant	18.8	6.5	19.7	19.7	42.4	3.0
Succorant	15.4	27.8	8.2	12.6	8.3	28.0
Aggressive	23.9	14.5	19.7	7.8	6.0	6.3
Dominant	18.6	26.8	16.4	15.8	10.9	17.4

N of Acts – 478 (behaviors directed to handicapped targets)

N of Received – 471 (behaviors initiated by handicapped targets)

Of all behavior handicapped targets initiated,

        22.9% were to nonhandicapped S's
        27.0% were to other handicapped children,
                including non targets H's
        50.1% were to teachers.

Of all behaviors handicapped targets received,

        14.2% were from nonhandicapped S's
        12.8% were from other handicapped children,
                both targets and non targets
        73.0% were from teachers.

Note: Arrows point to recipient of the behaviors.
        All scores are percentage measures.

frequency of that form of social behavior with the behaviors demon-
strated by handicapped children and nonhandicapped children in a non-
mainstream setting. Thus, of the five most frequent behaviors in-
volving nonhandicapped children initiating to handicapped targets,
commanding and boasting also occur among the five most frequent
behaviors involving handicapped target initiated behavior and non-
handicapped nonmainstreamed behavior. Insulting, assisting, and
giving objects occur with more variable rates among the three groups,
with assisting exhibiting an especially large variation in rank.

A further means of analyzing social behavior is to look at the
most frequently occurring social behaviors initiated by nonhandicapped
children and study the significant correlations that occur with those
behaviors. In this analysis, insulting, commanding, assisting and
giving objects accounted for 54.9 percent of all social behaviors.
Twenty other specific forms of social behavior had been coded as well,
but these four accounted for the majority of demonstrated behavior.
Table 4.9 presents significant correlations between insulting, com-
manding, assisting, and giving objects.

Correlations with Insulting. Insults by nonhandicapped children to
their handicapped targets were the most frequent of all social behaviors
enacted, occurring in slightly more than 16% of the interactions. As
Table 4.9 indicates there were numerous significant correlations in-
volving insulting. The negative correlations with sex (r = -.36,
p = .08) shows that boys were more likely than girls to engage in
insulting behavior to handicapped targets. Boys were also more likely
than girls to engage in behavior of any kind, as will be discussed in

Table 4.9

Correlations (Pearson's r) between Insulting, Commanding,
Assisting, and Giving Objects, and Measures of
Social Understanding, Sex, IQ, and Various
Behaviors Enacted and Received

(n=13)	Insults	Commands	Assists	Gives Object
Acts		-.38+		
Sex (1=boys, 2=girls)	-.36+	.50*		
IQ	-.39+		.40+	-.44+
Role Taking	-.37+			
Interview		.53*		
% Negative	.43+		-.50*	
Age Guess	-.51*			
Compliance	-.45+		.76***	
Proximity	-.37+			
Watches		.61**		
Teaches			.41*	
Hits				.42*
Is Greeted (4)++			.69**	
Is Offered Object (7)	.59**			
Is Questioned (11)			.49*	
Is Requested Help (9)	-.35+		.36+	
Is Followed (6)		.67**		
Is Commanded (1)	-.45*	.70***		-.46*
Receives Boast (2)	.78***			
Receives Dominance		.57**		
Receives Sociable			.56**	
Receives Aggression				.38+

Note: All tests of significance are two-tailed
++ = indicates rank order of frequency among received behaviors
+ p < .10   ** p < .01
* p < .05   *** p < .001

the following section on sex differences. IQ (r = -.39, p = .08), role

taking (r = -.37, p = .09) and proximity (r = -.37, p = .07) all showed

similar inverse correlations to insulting behavior, i.e., that high IQ

related to low insulting, high role taking related to low insulting, and

more occasions of proximity related to fewer occasions of insulting.

Higher percent of negative affect in the interviews was related to

higher frequency of insulting behavior (r = .43, p = .07). Similarly,

higher rates of compliance to requests from handicapped targets was re-

lated to lower rates of insulting (r = -.45, p = .06). The age guess

measure was also inversely related to the incidence of insulting beha-

vior (r = -.51, p = .04), indicating that subjects who thought of the

targets as younger than their actual age, tended to treat them with more

insulting behavior. Insulting also showed significant relations to

several behaviors that were received by the nonhandicapped subjects,

specifically, being offered objects, being requested of help, being

commanded, and receiving boasts. While the effect of the handicapped

targets' actions was not considered in any of the hypotheses of this

study, these correlations as well as the other evident in Table 4.8,

suggest that the relation of effects of the behaviors directed by handi-

capped targets to their nonhandicapped subjects were substantial, and

in some cases more substantial than the relation between social under-

standing and social behaviors. Thus, for insulting there is a great

likelihood of boasting being coincident (p = .001) and the offering of

an object to occur (p = .008). Receiving requests for help and being

commanded by handicapped targets related inversely to the incidence

of insulting (p = .09 and p = .04, respectively); thus, the more a

subject was sought out as a source of assistance and the more commands issued by targets, the less likely it was that the subject would insult handicapped targets.

Correlations with Commanding. Girls were more likely to command handicapped targets than boys were (r = .50, p = .02), and subjects who scored higher on their interviews were more likely to command more frequently (r = .53, p = .03). Watching, a behavior that was dropped from most analyses because of the impossibility of avoiding double scoring, also was associated with a high rate of commanding (r = .61, p = .005). Three behaviors received by nonhandicapped subjects were often coincident with commanding: being commanded by targets (r = .70, p = .001), being followed (r = .67, p = .002), and receiving dominance (r = .57, p = .01) which is an aggregate total of behaviors that include commanding.

Correlations with Assisting. Assisting showed a positive relation to IQ (r = .40, p = .08), teaching (r = .41, p = .05) and being compliant, (r = .76, p = .001), and an inverse relation to the percent negative measure (r = -.50, p .04). There were four correlations with interactive behaviors: being greeted (r = .69, p = .002), being questioned (r = .49, p = .03), being requested of help (r = .36, p = .08) and receiving sociability, again an aggregate behavior that included greeting (r = .56, p = .01).

Correlations with Giving Objects. IQ was negatively related to giving objects, (r = -.44, p = .06), while hitting showed a positive relation (r = .43, p = .05). Being commanded also was negatively related to the act of giving objects (r = -.46, p = .04). The aggregate score of receiving aggression was positively related to giving objects (r = .38, p = .07).

Discussion. Among behaviors more frequently enacted and received by
nonhandicapped children there are several that occur frequently
regardless of the status of the participant: commanding, boasting,
taking objects, and offering objects. More related to the status
of the participants are the frequent demonstration of insulting and
assisting by nonhandicapped children, and the greeting, following and
demanding of objects exhibited by handicapped children. The use of
behavior systems, while offering the possibility of reducing the
behaviors into units defined by their related intentions, somewhat
masks this ranking of the specific behaviors. The behavior systems
analysis does however, make it possible to compare the frequencies
of behaviors demonstrated in this study with those of other studies,
for example the cross cultural work of the Whitings (1975).

That the more frequently exhibited behaviors are associated
with behaviors received by the nonhandicapped children suggests the
power of the transactional experience in the course of social inter-
actions. In the case of insulting, for example, receiving a boast
from a handicapped child is the most related variable to the
likelihood of delivering an insult, even though measures of social
understanding make it somewhat possible to describe the profile of a
subject likely to demonstrate an insult (low IQ, low scores on role
taking, low age guess, less compliant, less often nearby, more often
a boy). This can also be said of commanding, i.e., that while being
a girl with a high score on the interview, often watching, but not
often interacting with, defines a certain amount of likelihood that

one will demonstrate commanding behavior, more significant is the experience of receiving a command from a handicapped child, with being followed by a handicapped child also being related to the likelihood of commanding. For assisting behaviors, compliance to requests, frequently being greeted, receiving questions and requests for help are also qualities of the ongoing social interactions that are coincident to a nonhandicapped subject offering assistance to a handicapped target.

Unfortunately, the procedures used to analyze the social behavior data do not permit a contingency analysis of behaviors enacted and received. To say that a boast received from a handicapped child is predictive of an insult by a nonhandicapped child, or that the enactment of an insult leads to a boast by a handicapped child, requires data collection and analysis that is more sophisticated than 3-minute interval time sampling and simple correlational statistics. Only by coding the sequence of behaviors within time intervals could contingency relationships among behaviors be studied. Nevertheless, the correlational relationships found in this study suggest a reciprocity of social interaction of certain kinds of behavior engaged in by nonhandicapped children and handicapped classmates. In the case of insulting, commanding, and assisting the immediate experience is at least as important, if not more important than the thoughts and judgments considered "social understanding" in predicting the direction of specific behavior. That this is true may be a reflection of the crudeness with which this exploratory study measured and analyzed social understanding, or the general impossiblity of assessing any child's thoughts. It may also reflect a true independence of social understanding from the moment to

moment specifics of social interaction while still offering reliable indexes of general dispositions. Most likely social understanding is not totally independent of social behavior, as the modest correlations with measures of social understanding suggest. What is suggested by this analysis is possibly some relation between social understanding and social behavior that is mediated in the experiences of social interaction. This may indeed by the "bidirectional" relation that Piaget (1932/1965) observed in his early studies of the relation between children's moral development and actual behavior with other children.

Effects of Sex and Age.

Data. While mention has been made in passing of the particular occasions in which the sex or age of the subjects was of significance, the following brief section will discuss these variables more completely. Table 4.10 presents the significant correlations with sex and age. Excluded are correlations with behaviors that occurred less than 5% in frequency. Table 4.10 suggests that sex is a variable that is related to forms of aggressive and dominant behavior, while age is related to behaviors received by nonhandicapped subjects, especially those behaviors that are sociable, and dominant. Boys (scored as 1, with girls scored as 2) engaged in more acts and received more behaviors of all kinds; they were more aggressive and received more aggression; the specific aggressive behaviors that boys exhibited more often were insulting and taking objects. Girls were more often dominant by commanding and boasting than boys were, and they received commands more often than boys. Girls also scored higher on their interviews than boys did.

Table 4.10

Correlations (Pearson's r) of Sex and Age with
Social Behaviors Enacted and Received and
Measures of Social Understanding

(n=13)	Sex	Age
Acts	-.37*	
Receives	-.32+	
Aggressive	-.46*	
Receives Aggression	-.34+	
Dominant	.42*	
Commands	.50*	
Boasts	.34+	
Insults	-.36+	
Takes Object	-.34+	
Receives Commands	.35+	.44*
Receives Demand of Object		.38*
Receives Dominance		.52**
Receives Sociable		-.73**
Is Greeted		-.37*
Is Requested Help		.36+
Receives Boasts		-.36+
Interview	.64**	.40+
Role Taking		.88***

Note: All tests of significance are two-tailed.
+p < .10   *p < .05   **p < .01   ***p < .001

Older children of either sex were more often chosen as recipients for dominant behavior, specifically behavior involving commands of action and demands for objects. Older children were also requested of help more often than were younger children. Younger children were very likely to be chosen as recipients of sociable behavior by handicapped targets. The form of sociable behavior most often

received by nonhandicapped children was greeting. Younger children were also likely to receive boasts from their handicapped classmates. Older children scored higher more often on the interviews of social understanding, and as previously mentioned, were very successful on the role taking measure.

In the specific case of receiving commands, older subjects were more significantly chosen as recipients of that behavior (r = .44, p = .02) but girls were more likely than boys to receive this behavior (r = .35, p = .06). How much of this variance is attributable to the sex or age of the subjects cannot be assessed by the procedures of this study. While two way analysis of variance was considered, the small sample size made the results essentially meaningless.

The correlations with age suggest that judgments by the handicapped targets of the receptiveness of the nonhandicapped children may be a factor in the selection of a recipient of specific kinds of social behaviors. The sex of the subjects was more related to the enactment of certain aggressive and dominant behaviors, but also related to the overall frequency of behaviors received and the receiving of aggressive behaviors.

With a larger sample size further pursuit of these findings might enable one to clarify the relation of sex and age, and behaviors enacted and behaviors received. The summary behavior systems enacted and received were analyzed with t-tests, but there was only a modest finding of significance between the percentage of dominant

behavior enacted with the percentage of dominant behavior received
(t = -1.83, p = .087). There were no other significant findings in
the t-tests results.

C H A P T E R   V

SUMMARY AND CONCLUSION

Summary of Predicted Relationships and Results

The central purpose of this study was to explore the hypothesized existence of a relationship between young children's social understanding and social behavior involving handicapped classmates. It was predicted that variations and individual differences in social understanding demonstrated in an interview procedure would be associated with variations and individual differences in social behavior directed towards handicapped classmates who had been the focus of the interview procedure. A secondary purpose of this study was to investigate whether role taking and/or IQ scores could predict social understanding or social behavior to handicapped classmates. Finally, the nature and range of children's understanding of handicapped classmates was explored to determine whether the effects of age, gender or exceptional other experiences with handicapped children were related to this understanding and/or social behavior.

Social understanding was assessed in a semi-structured interview procedure, which involved asking the subjects questions about selected handicapped classmates, whose photographs were used during the interviews. Interview questions were designed to elicit information

regarding the subjects' definitions, identification, and explanations of handicaps, judgments about similarity and dissimilarity of the target handicapped children to subjects, perception of the ages of the handicapped targets, and affective judgments associated with the target children.

Role taking was measured using a non-verbal strategy game, in which the subject both guessed the location of a small object hidden in the fists of the examiner, and attempted to play by hiding the object for the examiner to find. The Peabody Picture Vocabulary Test was used as a measure of verbal IQ level.

Qualitative analysis of the social understanding interviews concerned three areas, the nature of the first spontaneous comments, comments describing similarities and differences between the subjects and the target handicapped children, and the definitions and explanations of handicaps proposed by the nonhandicapped children. Spontaneous comments were most often photo based with negative comments occurring slightly less often. Less frequent spontaneous comments were judged positive, and/or related to the specific handicapping conditions.

Differences were noted between the subjects and the handicapped targets in 77% of the remarks on this topic, with comments that noted similarity only occurring at a rate of 20%. Children who observed similarities between themselves and the target children often later observed differences as well, further along in the interview. Differences were categorized into four types: those referring to the here and now aspects of the interview ("I'm here, the target is out in the sandbox"), those referring to behavioral and physical differences,

those referring specifically to handicaps, and those that were expressed as opinions of dislike ("She's different cause I hate her").

Handicaps were most often defined as mobility related, particularly as the inability to walk. Comments of this type accounted for slightly over half of the definitions and explanations for handicaps given by the subjects. Next most frequently noted (almost one-fourth) were explanations that involved the use of some inference to explain the existence and/or cause of handicaps. While in most cases a subject would use a single inference for each of the targets, inferences related to the idea that the targets were either babies, too little or experienced something at birth ("He was born!") somehow related to their present handicapped state, each did get expressed by more than one subject.

Further explanations of handicaps referred to physical aspects of the particular handicaps that were not mobility related, and other, less frequent comments about the definitions of handicaps were judgmental, rather than explanatory.

Revealed in this analysis of the social understanding are three important points. The first concerns the importance of mobility and the ability to walk and run in peer relations among young children. The target who could walk and/or run, even though he had what seemed to be other obvious impairments, was much less frequently identified as being handicapped. That he could barely converse with his class-mates was not judged as salient as his ability to run around with the rest of his peers. The other handicapped targets were most often

defined as handicapped because of their inability to walk.

The second important point in the analysis to the social under-standing interviews relates to the pervasive thread of negative and dissimilar judgments contained throughout the interviews. Expressions of negative judgment, feelings of dislike, and insulting comments were the most clear and consistent characteristic throughout the interviews. Of course there were children who did express sincere feelings of positive regard for some of the targets. But much more likely was the intense expression of negative feelings. Coupled with the high frequency of judging the handicapped targets as different from themselves, these findings may support the thesis of Thurman and Lewis (1979) that early rejection of handicapped children may lie in this tendency to associate differences with dislike. As the discussion of the relation between the percentage of negative state-ments made in interviews and the enactment of social behaviors will indicate, behaviors certainly seem related to this aspect of social understanding.

The third important point in this analysis of the interviews is what is revealed about the thoughts children think in the process of talking about their familiar handicapped classmates. In many ways their thinking is typical of the general characteristics of pre-schoolers' social/cognitive development. Much of their thinking was totally concrete, even to the degree of talking about the target children by only talking about the photographs that represent those children. Many comments were photo specific, and in numerous ways children revealed their egocentric perspectives. Their statements

about the identity of these children were generally attributes that were physical rather than psychological, and concrete rather than abstract. Typical also, were the cases of obvious but unrecognized contradictions and the quasi-logical inferences.

More specific, however, is the range of thinking that was demonstrated even within this small sample size. This range is reflected in the classification of the interviews into three levels. That is, even while the majority of children interviewed tended to typify the general characteristics of preschool thinking, developmental trends can be observed within these general parameters. Lower level interviews made few distinctions between the targets and themselves and had few ideas about the meaning of handicaps. Their comments were often repeated from one interview to the next. Middle level interviews were more likely to have some ideas about the meaning of the word "handicapped," most often defining it as the inability to walk. While children in the middle level expressed both the judgment that targets were kids and babies, and both positive and negative feelings towards the targets, they were the most likely to demonstrate fanciful speculations about the causes of handicapping conditions. Higher level interviews demonstrated frequent distinctions between the targets, more frequent use of reasonable generalizations, more accurate knowledge of the time scope and permanence of handicapping conditions, and fewer contradictions than children at lower levels did. Level three interviews also indicated occasional references to psychological attributes in the targets, and level three subjects were

unwilling to speculate so wildly about the causes of handicapping conditions.

In sum, the last point indicates that preschool children typically understand their handicapped classmates in ways that are related to the fact that they are preschool thinkers who are asked to make sense of children who are peers in some ways, but not in others. Handicapped classmates are "discrepant others," who despite lengthy coattendance of a school program still are confusing to and misunderstood by nonhandicapped classmates. Successful understanding of handicapped classmates requires that nonhandicapped children perceive the errors in their previous misunderstandings and overgeneralizations, and expand their concept of personhood to include children with disabled bodies. Clearly, this has implications for educators concerned with children's understanding of different others. The nature of these implications will be discussed in the concluding section of this study.

Quantitative analysis of the interviews focused on the previously mentioned interview levels, the percentage of statements that was negative, the number of statements altogether, and the judgments of the subjects as to the age of the handicapped targets. Scores on these measures were correlated with the measures of social behavior to assess the degree of their statistical relation.

Social behaviors were measured in naturalistic observation of spontaneous interactions involving the target handicapped children and their classmates, who were the subjects of this study. The observations were analyzed using a coding system that consisted of 30 discrete social behaviors. Further analysis grouped these behaviors into five

categories of social behavior: sociable, aggressive, succorant, dominant, and nurturant.

Frequency analysis of the spontaneous social interactions revealed that in this setting the majority of social interactions (73%) involving handicapped children were initiated by teachers. Only 14.2% of spontaneous social behaviors were initiated by nonhandicapped children to the selected handicapped targets. Of this behavior initiated by the nonhandicapped children to the handicapped targets, there were four discrete behaviors that accounted for almost 55% of the total demonstrated behavior. The four most frequently occurring behaviors directed at handicapped targets were insulting, commanding actions, assisting and giving objects, in descending order of occurrence.

By grouping the behavioral data into behavior systems it was determined that aggressive behaviors were most often engaged in by the nonhandicapped subjects with sociable behaviors occurring only slightly less often. Nurturant behaviors were third ranked in order of frequency, with dominant behaviors just slightly less frequent. Least frequent were succorant behaviors, those in which a subject expressed the desire or wish for nurturance.

The behavioral grouping analysis permitted this data to be compared to data from a nonmainstreamed setting, in which observations were taken using the same observational instrument, as well as with the analysis of Whiting and Whiting (1975) who compared social behaviors among peers in six cross-cultural settings. Both the results from the six cultural studies and the nonmainstreamed setting showed a much lower incidence of nurturant behavior to be common among peers, than was found

in the mainstreamed setting. The Whitings found that nurturant behavior was most frequent in social interactions between young children and infants (0-2 years old), which is attributable to the high incidence of succorant behavior, signalling the wish for nurturance, by infants. In typical childhood development the incidence of succorant behavior declines as the child becomes more self-reliant, participates in more cooperative interactions with equals, and exhibits more behavior that is dominant and/or aggressive. What is suggested here, is that the continuation of the high frequency of succorant behavior, well past infancy, by the handicapped targets is most likely explained by the limitations and needs of specific handicapping conditions. In spite of this greater than expected frequency (among typical peer interaction) of signalling the need for nurturant behavior (in the present study succorant behavior was ranked first in behaviors demonstrated by targets to subjects), peers of handicapped children do not consistently reciprocate with that sought for nurturant behavior, even though they do demonstrate more nurturance than would be expected in a setting with nonhandicapped children exclusively. Possibly the presence and/or behavior of teachers inhibits the degree with which nonhandicapped peers can respond to succorant demands with nurturance. Of the behaviors initiated by teachers towards handicapped children, 42.4% were nurturant, which was the most frequent system of behavior engaged in by teachers in this study. Thus, even though in percentage rates, both teachers and nonhandicapped peers were appealed to succorantly in equal amounts, it was teachers who responded proportionately more often with nurturant behaviors (42.4% vs. 18.8%).

It is also possible that nonhandicapped children do not respond

to the succorant demands of the handicapped children with more succorant behavior for other reasons. Certainly the statistical correlations in this study support this, for the incidence of nurturant behavior showed no statistical relation to the receipt of a succorant behavior, but in fact was significantly related to the receipt of a sociable behavior (specifically being greeted by a handicapped target). Further, judgments of the age of the target handicapped children were not related to the rate of nurturant behavior, thus not supporting the hypothesis that the nonhandicapped children who thought of their handicapped classmates as babies would express this understanding by treating them with more nurturant behavior, typical of a young child's behavior to an infant.

The incidence of nurturant behavior did show statistical significance to the level of IQ and the measure of degree of negative judgments expressed in the interviews, with subjects demonstrating a high percentage of negative judgments engaging in significantly less nurturant behavior. Subjects who exhibited more nurturant behavior also tended to be more compliant to the requests from handicapped classmates, not surprisingly, given that they were also likely to hold low levels of negative feelings towards those children making the requests.

Aggressive behavior by nonhandicapped children to their handicapped classmates was the most frequent aggregate type of behavior observed in this study. In terms of statistical correlations, it was related to the sex of the subject (with boys being more likely), to not often being in proximity at the beginning of the observation intervals, to low scores on interviews assessing social understanding, and to the receipt of boasting behavior from handicapped targets.

Of these relationships, that with the receipt of a boast was the strongest (at the .02 level), with the negative relationship to proximity being only slightly less powerful (p = .03). The correlations of sociable behavior to variables assessed in this study, suggest a different set of factors interacting for that type of behavior. For example, proximity had a high positive relation to the enactment of sociable behaviors (p = .001), just the opposite of the relation between proximity and aggressive behavior. While the interview level similarly related inversely to the incidence of sociable behavior, as it did with aggressive behaviors, the age guess measure showed a positive relationship, suggesting that subjects demonstrated more sociable behavior to targets whom they judged older and more similar in age to themselves. Not engaging in succorant behavior with the target handicapped children, but frequently engaging in demanding (objects) behavior with handicapped children also increased the incidence of sociable behavior (with a p of .001 for the demand object/sociable correlation). Finally, sociable behavior was highly related to the receipt of behaviors of any type from handicapped targets (p = .001) suggesting the strong effects of the moment-to-moment experience on the frequency of sociable behavior, an effect that was statistically much stronger than any of the understanding variables on the production of sociable behaviors.

Conclusions

Looking at the results of the statistical correlations

between the measures of social understanding and social behavior reveals important ways in which the hypothesized relation between social behavior and social understanding is supported, while some correlations suggest that the hypothesized relation is not supported. Among the correlations that support the relation the strongest and most common are those involving the percent negative measure of understanding and the age guess measure of social understanding.

Percentage negative scores were related inversely to the incidence of behaviors of all kinds (total frequency of acts), to the incidence of nurturant behaviors, to greeting behaviors, to the offering of objects to handicapped targets, to assisting behaviors, and to the incidence of compliance to handicapped targets' requests. Age guess showed both positive and inverse statistical relations with social behaviors that were supportive of the hypothesis. Positive significant correlations were demonstrated in the case of age guess with offering objects, and age guess with compliance. Inverse significant correlations were found between age guess and succorant behavior, particularly boasting and insulting behaviors. Thus, it appears from these results that children who reveal a highly negative attitude toward handicapped classmates engage in less frequent behavior of all kinds, and in particular they demonstrate less nurturant behavior, less greeting behavior, less offering of objects, less giving of assistance, and are less compliant to handicapped classmates. Those children who hold

estimations of the handicapped children's ages that are younger than they actually are, demonstrate more succorant behavior, especially boasting, and more insulting behaviors with their handicapped classmates. They also infrequently offer objects and infrequently are compliant.

The relationship between the interview levels and social behavior is more complex. The overall hypothesis of the relation between social behavior and understanding is supported by the existence of significant negative correlations between the interview levels and the production of aggressive and dominant behaviors, and the specific behavior of demanding objects from handicapped targets. That high level interview scores were also related to the infrequent production of sociable behaviors does not support the hypothesis of this study, nor does the finding that higher level interviews were associated with higher incidence of commanding behaviors. The review of the data analysis suggests that other factors in the ongoing process of social interaction may be more related to the production of some of the social behaviors than the interview level variable, particularly the specific behaviors that were enacted by the handicapped targets.

Several explanations may be offered for this finding. The first has to do with the measure chosen to assess social understanding. The interview procedure was scored with criteria that were derived from study of the interviews, thus limiting the analysis of them to the range of the present sample. Without further validation of the criteria used to rank the interviews it is premature to assert that this procedure is a genuine measure of social understanding. Secondly,

as Flavell (1974) suggests, children may possess the awareness of cer-
tain social facts (called "existence") but not recognize the "need" to
consider them in a particular situation. In interactions involving
handicapped children and their nonhandicapped peers the possibilities for
relevant social facts are quite large. That any child, even one who
demonstrates a great deal of social understanding in these interviews,
would even possess and/or apply sufficient social knowledge to make
sense of all the variety of social behavior demonstrated by handicapped
children is certainly unlikely. Flavell suggests that when children
demonstrate such a "production deficiency" that prompting can be quite
useful. This position implicates teachers as mediators of children's
understanding and the use of their understanding in given social
situations.

Thirdly, as Strayer et al. (1980) propose, currently available
measures of social understanding seem to require different forms of
specific understanding and may be, at best, only an index of children's
general capacity for understanding social relations, but such under-
standing may not necessarily be fully used in any particular social
situation. Finally, measures of social understanding cannot be totally
predictive of the demonstration of social behaviors; for that to be true
would deny the effects of social experience as it occurs. Assessment
of this dynamic relation is only at a primitive stage, particularly
with young children.

The secondary hypothesis of an association with role taking and
IQ to social behavior and or social understanding was partially
supported by results. High role taking was found to be related to

frequent receipt of requests for help and to compliance to handicapped children's requests, to frequent offering of objects to handicapped targets, and to infrequent insulting behavior. These findings support the hypothesis. Also in support are the findings that high IQ was related to frequent nurturant behavior, frequent assisting behavior and infrequent insulting and demanding behaviors. That role taking was related to other measures of social understanding was supported by the finding of significant statistical relations between role taking and the interview levels, the percent negative measure and the age guess measure. However, there was no empirical support for the relation of IQ to social understanding, and IQ was also inversely related to the frequency of giving objects.

As with the previous discussion of the relation between social understanding measures, it is not possible to explain every single significant correlation in terms of the hypotheses of this study alone. Just as social behaviors were interrelated in ways that were sometimes more powerful than the relations between social understanding and social behavior, so the relations between IQ and role taking abilities were sometimes surpassed by the effects of the interrelations of the moment-to-moment social transactions.

Limitations of the Design of this Study. The small sample size employed in this study and the restricted range of some measures made it impossible to pursue these interrelations further with valid statistical procedures. When multiple (stepwise) regression analysis and two way analysis of variance were considered with this sample, the tentative findings indicated that a single subject could account for all the

significant relations reported using those procedures. Thus, the question of the true nature of the interrelations of these variables cannot be answered by the simple procedures used to analyze the data in this study. The results as they are in correlated terms are suggestive of a cluster of interrelationships between measures of social understanding as defined and measured in this study and certain dominant forms of social behavior typical in this site. Factor analysis would be appropriate with a larger sample, given the large number of significant correlations found in this sample.

Other significant correlations suggest other factors that might have been interacting in this particular sample. For example, age was very highly related to role taking and interview levels, and the receipt of sociable and dominant behaviors. Sex was also highly related to important variables in this study, including overall frequency of acts and behaviors received, aggressive and dominant acts and several frequent specific behaviors. For age, younger children received more sociable behavior (p = .001), especially greeting, and more boasts were directed to younger children by the handicapped targets. Older children were higher in role taking (p = .001), interview level (p = .06), and the receipt of dominant behaviors (p = .009), specifically commands and demands for objects, and they were sought for help more often than younger children were (p = .06). Boys engaged in more overall acts (p = .05); they received more behavior (p = .08) and they were more aggressive (p = .03), specifically engaging in more insulting and taking of objects. Boys

also received more aggression from target children. Girls were more dominant and commanding, demonstrated more boasts, and received more commands. They also demonstrated higher interview levels than boys did ($p = .033$).

These correlations thus make it impossible to say that the results of this study support the hypotheses of a relation between social behavior and social understanding. While important relations have been suggested by the results, in the balance of other important relations that are also suggested by the results, and in the absence of further confirmation of the hypothesized results by more sophisticated statistical procedures, one can only say that certain relationships are suggestive of further research.

Future Research and Implications for Education

Further research could address these issues by gathering data at several sites, with more precisely defined measures of social understanding and with more observations of the full range of social interactions among the nonhandicapped children with other nonhandicapped children and with handicapped children. In the present study, the absence of data on the social relations among the non-handicapped children make it impossible to attribute the results observed in social interaction to the fact that handicapped children were involved in these interactions. That is, that there is a great deal of insulting and commanding directed at handicapped children may also be the case with the nonhandicapped children in this site.

The data do not address this issue. Further, the low levels of behavior observed here may be attributable to several factors. One is the size of this particular center. A group of 41 children is larger than the typical preschool age group. The range of handicaps in this site is also somewhat unusual for a mainstream classroom. There was a preponderance of cerebral palsy and spina bifida conditions, with many children having severe handicaps. In the more typical mainstreamed classrooms, the range of handicaps might include younger children with less severe conditions as well as some conditions not represented in this group.

Teaching practices were not considered as a variable in this study. Casual observance of this issue during the pilot phase of data collection as well as informal discussions with the director and the educational coordinator at this center indicated that the information about handicaps provided to the nonhandicapped children was minimal. Some may argue that this allows children to discover spontaneously the important issues for themselves in dealing with the handicapped children, without prejudicial labels predisposing them to certain categorizations. I think that the interviews suggest otherwise. In most cases, the factual information expressed was so incomplete or almost nonexistent that nonhandicapped children were unable to have a realistic framework to refer to in the cases of these particular children.

Further research can also address the relationship of particular handicaps to forms of social behavior. While the selection of targets

in this study was done with this issue in mind, the level of behaviors demonstrated with particular children was so low that meaningful analysis could not be attempted to explore this area. It is suggestive that the target who had the least mobility and verbal ability received the lowest percentage of social behaviors, but no further conclusion can be reached. The interviews are also suggestive of what particular aspects of handicaps are noticed by the nonhandicapped children. The mobility of the targets seemed more meaningful than lack of verbal ability. Physical appearance was also observed by nonhandicapped children. These issues could be addressed more systematically in future studies.

Finally, of interest to future studies is the restricted range of this particular sample. Can the preponderance of negative behavior and negative attitudes be related to the demographic factors of this particular group of children, and/or to characteristics of children from lower class backgrounds? Would another study with a broader range of socio-economic backgrounds represented present similar results?

Implications for Education.

The study suggests that educational leadership is called for to address the problems encountered in mainstreaming of severely handicapped children with preschool age children. Leadership appears necessary to deal with the psychological phenomenon of differential response to physically different others in social interactions. While the relationships among variables found in this study do not assess the role of teachers or the education setting, the lack of attention to this issue cannot be excluded from the implications of the

results. The purpose of the study was to demonstrate how children's understanding mediates their behavior to different others. It was demonstrated that in cases in which the negative qualities of understanding were great, there were corresponding negative behaviors expressed with handicapped children. Teachers in mainstream settings who recognize that preschool age children will categorize handicapped others according to physical attributes, and thus most likely consider them different from themselves, can search for other areas in which similarities can be observed and felt by the nonhandicapped children. Thurman and Lewis (1979) further recommend that the issue of differences be addressed directly. Rather than just promoting occasions of presumed similarity among nonhandicapped and handicapped children, they advocate direct instruction on the values of diversity and differences among children. For such instruction to be effective at the preschool level it would necessarily have to be related to the specific cases involved in a given setting. Teaching in the abstract about how important it is that people are different and varied in their physical and personal qualities would be meaningless to children in this age range, without specific references to the cases of which they have the most knowledge. This is why prepackaged curricula that allow children to try on handicaps can only provide children a general level of information that may or may not be perceived as related to a specific situation they are familiar with.

More than recognition of the tendency of children to classify handicapped classmates as different from themselves and engage in infrequent and/or negative social behaviors with them is called for.

Attention must also be directed toward the assumptions and inferences that children make about their handicapped classmates. The interviews demonstrated that handicapped children are sometimes thought of as babies, as victims, as responsible for their conditions (by willing them), as stupid, and as sick. The reasons for the existence of these inferences are related to the process of thinking that is typical in children at the preoperational stage of development. Despite persuasive educational input on these matters, many preschool children will continue to believe these erroneous conclusions. In the face of totally contradictory evidence, preschool children will hold to the logic of their own ideas and persist in these categorizations and assumptions.

Teachers acquainted with this knowledge of the developmental basis for some of these phenomena can more effectively intervene in attempting to influence social understanding and interaction in mainstream settings. Recognition of the bidirectional relationship between social behavior and social understanding enables educators to concentrate on both areas. More typical is the concentration on the behavioral issues and little or no concentration on the understanding issues. What knowledge of the developmental processes provides is an understanding for teachers of the ways in which children can change their understanding. Knowledge of how behaviors can be modified and shaped are abundant in the training studies conducted in mainstreamed settings. What is only suggested in this study is that understanding is also a variable that educators can

focus on as well. This is a much more difficult task than affecting behavior change. Few methods are appropriate and reliable with preschoolers. Understanding the equilibration analysis of developmental change provides a theoretical interpretation that concerns the process of inference making and observations about the relationship between oneself and another person. Putting the equilibration analysis to work occurs when teachers begin by finding out the specific aspects of their students' understanding. The interviews conducted in this study modeled a method that can be adapted for classroom use as an initial measure of children's understanding. Observations and questions raised in an initial interview designed to assess children's understanding of their handicapped classmates can then be supplemented with information and experiences that may lead children to confront the particular contradictions that their own knowledge entails. Curriculum materials designed to promote cooperative interactions can supplement direct pedagogy concerned with understanding. Many verbal handicapped children are comfortable talking about their handicaps and sharing information about their equipment and their conditions. Peer discussions, especially among mixed age children, allow for the possibility of powerful peer effects in the interactions of conflicting points of view. Simulations and skits of key "problems" or situations repeatedly encountered in mainstreamed settings can provide an ongoing focus for these issues.

Teachers need to be armed with a developmental perspective that helps them understand what social understanding will be typical in

preschool age children in mainstream settings. Knowledge of how development of this understanding changes over time is probably most important of all. If we understand that children center on the physically obvious, that they tend to think in polar opposites (from not-like-me to like-me) rather than in differentiated and graduated degrees (somewhat-like-me, somewhat-not-like-me), that they prefer similarity, and that they construct knowledge of others by refining the relationship between their inferences and observations of others as a process of conflict resolution, we have a grasp of the process of changing children's understanding of different others.

The goal of educators in mainstream preschool settings is to facilitate understanding and interactions that address the differences between children in such a way that handicapped children are known as other children are, by many of their attributes and behaviors, and not solely in the context of a handicapping condition. This process of "breaking through the handicap" and knowing a handicapped child by personal characteristics is achieved in continuous face-to-face interactions. Mainstreaming as a social and educational policy can only work if educators take the leadership necessary to promote understanding of handicapped others that would permit more frequent social behavior to occur.

REFERENCES

Allen, K. E. Mainstreaming: What have we learned? Young Children, 1980, 35, 54-63.

Apolloni, T., Cooke, S. A. & Cooke, T. P. Establishing a normal peer as a behavioral model for developmentally delayed toddlers. Perceptual and Motor Skills, 1977, 44, 231-241.

Asher, S. R., Oden, S. L. & Gottman, J. M. Children's friendships in school settings. In L. G. Katz (Ed.), Current topics in early childhood education (Vol. I). Norwood, N.J.: Albex Publishing 1977.

Blatt, B. Christmas in Purgatory. Boston: Allyn & Bacon, 1966.

Borke, H. Interpersonal perception of young children: Egocentrism or empathy? Developmental Psychology, 1971, 5, 263-269.

Bricker, D. D. A rationale for the integration of handicapped and nonhandicapped preschool children. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

Bronson, W. C. Developments in behavior with age mates during the second year of life. In M. Lewis & L. Rosenblum (Eds.), Friendship and peer relations: The origins of behavior (Vol. 4). New York: Wiley, 1975.

Cegelka, W. J. & Tyler, J. L. The efficacy of special class placement for the mentally retarded in proper perspective. Training School Bulletin, 1970, 67, 33-68.

Chandler, M. J. Egocentricism and antisocial behavior: The assessment and training of social perspective taking skills. Developmental Psychology, 1973, 9, 326-332.

Chandler, M. J. Social cognition: A selective review. In W. F. Overton & J. M. Gallagher (Eds.), Knowledge and development, advances in research and theory (Vol. I). New York: Plenum Publishing, 1977.

Cooney, E. W. Social-cognitive intervention: Some thoughts on the effects and evaluation of an elementary grade curriculum. Unpublished manuscript, Hampshire College, Amherst, MA, 1977.

Damon, W. The social world of the child. San Francisco: Jossey-Bass, 1977.

Davidson, F. H.   Ability to respect persons compared to ethnic prejudice in childhood. Journal of Personality and Social Theory, 1976, 23, 1256-1267.

Devoney, C., Guralnick, M. J. & Rubin, H.   Integrating handicapped and nonhandicapped preschool children: Effects on social play. Childhood Education, 1974, 50, 360-364.

DeVries, R.   The development of role-taking as reflected by behavior of bright, average and retarded children in a social guessing game. Child Development, 1970, 41, 759-770.

Dunn, L. M.   Peabody Picture Vocabulary Test. (expanded manual, 1965 edition). Circle Pines, Minnesota: American Guidance Services, Inc., 1965.

Dunn, L. M.   Special education for the mildly retarded--Is much of it justifiable? Exceptional Children, 1968, 35(1), 5-22.

Edwards, C. P., Jackson, E., & Bonvillian, P.   Children's Interaction Project.   Unpublished manuscript, Vassar College, 1977.

Edwards, C. P. & Lewis, M.   Young children's concepts of social relations: Social functions and social objects. In M. Lewis & L. A. Rosenblum, (Eds.), The child and its family: Genesis of behavior (Vol. II). New York: Plenum Publishing Corp., 1979.

Enright, R. D. & Sutterfield, S. J.   An ecological validation of social cognitive development.   Paper presented at biennial meeting of Society for Research in Child Development, San Francisco, 1979.

Flapan, D.   Children's understanding of social interaction.   New York: Teachers College Press, 1968.

Flavell, J. H.   The development of inference about others.   In T. Mischel (Ed.), Understanding other persons.   Oxford: Blackwell Press, 1974.

Flavell, J. H., Botvin, P. T., Fry, C. L., Wright, J. W. & Harris, P. E. The development of role-taking and communication skills in children. New York: Wiley, 1968.

Forbes, D.   Recent research on children's social cognition: A brief review. New directions for child development. San Francisco: Jossey-Bass, Inc., 1978.

Forman, G. E.   The power of negative thinking: Equilibration in the preschool. In I. E. Sigel, R. M. Golnikoff & D. Brodzinsky (Eds.), Piagetian theory and research. Hillsdale, N.J.: Erlbaum Publishers, in press.

Forman, G. E. & Sigel, I. E. Cognitive development: A life-span view. Monterey, Calif.: Brooks/Cole, 1979.

Fredericks, H.D.B., Baldwin, V., Grove, D., Moore, W., Riggs, C., & Lyons, B. Integrating the moderately and severely handicapped preschool child in a normal day care setting. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

Friedland, S. J., Meisels, S.J., & Hersch, R.G. Piagetian implications of integrating the normal and handicapped preschool child. Paper presented at the Sixth Annual Interdisciplinary International Conference on Piaget and the Helping Professions, Los Angeles, 1976.

Furth, H.G. The world of grown-ups. New York: Elsevier North Holland, Inc., 1980.

Gilbert, D. The young child's awareness of affect. Child Development 1979, 39, 619-636.

Gliedman, J. & Roth, W. The unexpected minority: handicapped children in America. New York: Harcourt, Brace, Jovanich, 1980.

Goffman, E. Stigma. Englewood Cliffs, N.J.: Prentice Hall, Inc., 1963.

Goldman, B.D., & Ross, H.S. Social skills in action: An analysis of early peer games. In T. Glick & K.A. Clarke-Stewart (Eds.), The development of social understanding. New York: Gardner Press, 1978.

Guardo, C.J. & Bohan, J.B. Development of a sense of self-identity in children. Child Development, 1971, 42, 1909-1921.

Guralnick, M.J. The value of integrating handicapped and nonhandicapped preschool children. American Journal of Orthopsychiatry, 1976, 46(2), 236-245.

Guralnick, M.J. Integrated preschools as educational and therapeutic environments: Concepts, design and analysis. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

Guralnick, M.J. & Paul-Brown, D. The nature of verbal interactions among handicapped and nonhandicapped preschool children. Child Development, 1979, 48, 254-260.

Hartup, W.W. The origins of friendship. In M. Lewis & L. Rosenblum (Eds.), Friendship and peer relations: The origins of behavior (Vol. IV). New York: Wiley, 1975.

Hartup, W.W. Peer interaction and the processes of socialization. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

Hobbs, N. (Ed.). Issues in the classification of children (Vol. 1). San Francisco: Jossey-Bass, 1975.

Hohmann, M., Banet, B., & Weikart, D.P. Young children in action. Ypsilanti, Mich.: The High Scope Press, 1979.

Ipsa, J. Social interactions among teachers, handicapped children, and nonhandicapped children in a mainstreamed preschool. Journal of Applied Developmental Psychology, 1981, 1, 231-250.

Ipsa, J. & Matz, R.D. Integrating handicapped preschool children within a cognitively oriented program. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

Karnes, M.B. & Lee, R.C. Mainstreaming in the preschool. In L. Katz (Ed.), Current topics in early childhood education (Vol. II), Norwood, N.J.: Albex Publishing Co., 1979.

Keller, M.F. & Carlson, P.M. The use of symbolic modeling to promote social skills in preschool children with low levels of social responsiveness. Child Development, 1974, 45, 912-919.

Kleinfield, S. The hidden minority. Boston: Brown and Co., 1979.

Lewis, M. & Rosenblum, L. (Eds.). Friendship and peer relations. The origins of behavior (Vol. IV). New York: Wiley, 1975.

Livesley, W. J. & Bromley, D. B. Person perception in childhood and adolescence. London: Wiley, 1973.

Meisels, S. (Ed.). Special education and development. Baltimore: University Park Press, 1979.

Mueller, E. (Toddlers + Toys) = (an autonomous social system). In M. Lewis & L. Rosenblum (Eds.), The child and its family: The genesis of behavior (Vol. 2). New York: Plenum, 1979.

Mueller, E. & Lucas, T.A. A developmental analysis of peer interaction among toddlers. In M. Lewis & L. Rosenblum (Eds.), Friendship and peer relations: The origins of behavior (Vol. IV). New York: Wiley, 1975.

Mussen, P. & Eisenberg-Berg, N. Roots of caring, sharing, and helping. San Francisco: W. H. Freeman and Co., 1977.

Nordquist, V.M. A behavioral approach to the analysis of peer interactions. In M. J. Guralnick (Ed.), Early intervention and the integration of handicapped and nonhandicapped children. Baltimore: University Park Press, 1978.

O'Connor, R. D. Modification of social withdrawal through symbolic modeling. Journal of Applied Behavior Analysis, 1979, 2, 15-22.

Peevers, B.H. & Secord, P.F. Developmental changes in attribution of descriptive concepts to persons. Journal of Personality and Social Psychology, 1973, 27, 120-128.

Piaget, J. The child's conception of the world. Tototwa, New Jersey: Littlefield, Adams & Co., 1972. (Originally published, 1929).

Piaget, J. The moral judgment of the child. New York: Free Press, 1965. (Originally published, 1932).

Piaget, J. The development of thought: Equilibration of cognitive structures. New York: Viking Press, 1977.

Porter, R.J., Ramsey, B., Tremblay, A., Iaccobo, M., & Crawley, S. Social interactions in heterogeneous groups of retarded and normally developing children: An observational study. In G. P. Sackett (Ed.), Observing behavior, theory and applications in mental retardation (Vol. I). Baltimore: University Park Press, 1978.

Pratt, C. L. & Sackett, G. P. Selection of social partners as a function of peer contact during rearing. Science, 1967, 155, 1133-1135.

Ray, J. S. Behavior of developmentally delayed and nondelayed toddler age children: An ethological study. Unpublished doctoral dissertation, George Peabody College, 1974.

Rothenberg, B. Children's social sensitivity and the relationship to interpersonal competance, intrapersonal comfort, and intellectual level. Developmental Psychology, 1970, 2, 335-350.

Rubin, K.H. Role taking in childhood: The unitary construct reconsidered. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, 1977.

Rubin, Z. Children's friendships. Cambridge, Mass.: Harvard University Press, 1980.

Sarason, S.B. & Doris, J. Educational handicap, public policy and social history. New York: The Free Press, 1979.

Scriven, M. Some issues in the logic and ethics of mainstreaming. (Proceedings from July 1975, Dean's Projects Conference), Minnesota Education, 1976, 2, 61-67.

Selman, R.L. Taking another's perspective: Role-taking development in early childhood. Child Development, 1971, 42, 1721-1734.

Selman, R.L. & Byrne, D.F. A structural-developmental analysis of levels of role taking in middle childhood. Child Development, 45, 803-806.

Selman, R.L. & Selman, A.P. Children's ideas about friendship: A new theory. Psychology Today, 1979, 13 (4), 70 ff.

Shantz, C.U. The development of social cognition. Chicago: University of Chicago Press, 1975.

Shatz, M., & Gelman, R. The development of communication skills: Modifications in the speech of young children as a function of the listener. Monographs of the Society for Research in Child Development, 1973, 38 (5), Serial No. 152..

Shores, R.E., Hester, P., & Strain, P.S. The effects of amount and type of teacher-child interaction on child-child interaction during free play. Psychology in the Schools, 1976, 13, 171-175.

Stein, S.B. About handicaps. New York: Walker and Co., 1974.

Strain, P.S. & Timm, M.S. An experimental analysis of social interaction between a behaviorally disordered preschool child and her classroom peers. Journal of Applied Behavior Analysis, 1974, 7, 583-590.

Strain, P.S. & Wiegerink, R. The effects of socio-dramatic activities on social interaction among behaviorally disordered preschool children. Journal of Special Education, 1976, 10, 71-75.

Strayer, F.F., Lefebvre-Pinard, M., Bouffard-Bouchard, T. & Rondeau, P. Social cognition, communication and social interaction among preschool children. Memo de Recherche, Laboratoire d'Ethologie Humaine, Department de Psychologie, Universite du Quebec a Montreal, 1980.

Snyder, L., Apolloni, T., & Cooke, T.P. Integrated settings at the early childhood level: The role of nonretarded peers. Exceptional Children, 1977, 43, 262-266.

Thurman, S.K. & Lewis, M. Children's response to differences: Some possible implications for mainstreaming. _Exceptional Children,_ 1979, <u>45</u> (6), 468-470.

Turnbull, A.P. & Schulz, J.B. _Mainstreaming handicapped students: A guide for the classroom teacher._ Boston: Allyn and Bacon, 1979.

Whiting, J.W.M., Child, I.K., Lambert, W.W. _Field guide for a study of socialization._ (Six Cultures Series, Vol 1). New York: John Wiley and Sons, 1966.

Whiting, B. & Whiting, J.W.M. _Children of six cultures._ Cambridge, Mass.: Harvard University Press, 1975.

Wolfensberger, W. _Normalization: The principle of normalization of human services._ Toronto: National Institute on Mental Retardation, 1972.

Wynne, S., Ulfelder, L.S., & Dakof, G. _Mainstreaming and early education for handicapped children: Review and implications of research._ (Final Report, Contract OEC-74-9056). Washington, D.C.: Bureau of Education for the Handicapped, 1975.

Youniss, J. & Volpe, J. A relational analysis of children's friendship. _New Directions for Child Development,_ 1978, <u>1</u>, 1-22.

Zigler, E., & Muenchow, S. Mainstreaming: The proof is in the implementation. _American Psychologist,_ 1979, <u>34</u>, 993-996.

APPENDICES

APPENDIX I

Categories of Social Behavior
(Edwards, Jackson & Bonvillian,
unpublished manuscript)

Appendix I

Categories of Social Behavior

Children's Interaction Project

Definitions of Categories for free play observation

Begin by recording Activity, Who near, and Touching categories at the beginning of each 3 minute scoring interval.

Who Near- other children within about 4 feet of target child, but not touching

Touching- children in physical contact with target child

1. **Hits, Kicks** - hits, kicks, socks, pushes and other gross motor aggressive acts.

2. **Takes object** - grabs or forcibly removes object.

3. **Refuses object** - does not give, or keeps object away from other child.

4. **Offers object** - offers object when it is not grabbed or asked for.

5. **Gives object** - hands object to child.

6. **Demands object** - requests, whines for, or commands to be given object.

7. **Restrains** - forcibly holds other child.

8. **Roughhouses** - playfully wrestles, chases, engages in tough and tumble play.

9. **Affection** - hugs, kisses, takes hand, cuddles, pats affectionately (recipient nt upset)

10. **Comforts physically** - hugs, touches, pats affectionately (recipient is upset).

11. **Comforts verbally** - comforts using speech only (recipient is upset). "That's okay."

12. **Touches** - comes in contact with other child (but neither aggressively nor to comfort)

13. **Requests help** - asks for assistance to complete action.

14. **Assists** - helps complete action, in response to request, or child struggling.

15. **Watches or observes**- looks at or stares at other child for at least 10 sec.

16. **Greets** - greet or bids farewell (includes waves).

17. **Insults** - insults, denigrates, threatens, argues, scolds, and other verbal aggression. "That's ugly" "You're a jerk" "You're wrong"

18. **Praises** - praises child or gives approval or verbal affection. "That's nice" "You're my friend"

19. **Shows, exhibits**- shows object of accomplishment to child.

20. **Boasts** - asserts competance, achievement, goodness ("aren't I good")

21. **Commands action** - tells child to do some action. "You be the mommy, get me the chair"

22. **Refuses action** -does not comply with command for action.

23. **Complies to action** - responds as directed, follows directions, answers question.

24. **Teaches** - explains, instructs, demonstrates, shows how to do.

25. **Imitates action**-copies or duplicates child's action; includes deferred and partial imitation . (prosocial)

26. **Mocks** - imitates action with intent to insult.

27. **Imitates speech**- copies speech.

28. **Questions** - asks others for information or how to do something.

29. **Talks with**- chats, converses, discusses.

30. **Follows**- follows, trails after, not chases.

APPENDIX II

Sample Coding Sheet for Social Behaviors

Sample Coding Sheet for Social Behaviors

Child's Name_____ Sex_____ Class_____ Observer_____

Date_____ Time_____ Location_____

Activity				Activity
Who near				Who near
Touching				Touching
Hits, kicks				Hits, kicks
Takes object				Takes obj.
Refuses object				Refuses obj.
Offers object				Offers obj.
Gives object				Gives obj.
Demands object				Demands obj.
Restrains				Restrains
Roughhouses				Roughhouses
Affection				Affection
Comforts physically				Comforts physc.
Comforts verbally				Comforts verb.
Touches				Touches
Requests help				Requests help
Assists				Assists
Watches, observes				Watch, obs.
Greets				Greets
Insults				Insults
Praises				Praises
Shows, exhibits				Shows, exhibit
Boasts				Boasts
Commands action				Commands action
Refuses action				Refuses action
Complies to action				Complies to
Teaches				Teaches
Imitates action				Imitates act.
Mocks, imitates				Mocks
Imitates speech				Imitates speech
Questions				Questions
Talks with				Talks with
Follows				Follows

APPENDIX III

Behavior Systems Protocols and Examples

APPENDIX III

BEHAVIOR SYSTEMS PROTOCOLS AND EXAMPLES

1. <u>Sociable Behaviors</u>: interactions that involve making a friendly response to other people and enjoying friendly interaction itself; implies expectation of reciprocity; most likely to occur with people of equal status. Specific behaviors: watching, talking with, greeting, touching, offering objects as sociable gesture, giving objects as sociable gesture, imitation, friendly rough-housing. Examples:

> Talks with: "I go crazy when there's spaghetti for lunch."
> "Are you having a good day?"
>
> Greets: "Hi, can I play?"
>
> Offers object: "Do you want this?" (powder puff)

2. <u>Aggressive Behaviors</u>: interactions in which someone is hurt or in which the actions usually lead to someone's being hurt; the hurt may be physical or social, includes aggression that is un-provoked and provoked. Specific behaviors: hits, taking objects, restraining, insulting, mocking. Examples:

> Insults: "He pee'd, dumb, dumb."
>
> Hits: Subject jumps on target when target draws on S's paper, calls him "Stupid."

3. <u>Nurturant Behaviors</u>: interactions in which there is caring for the needs of others who are in a more helpless position; most likely exhibited with a person who is behaving succorantly. Specific behaviors: assisting, giving affection, comforting,

teaching, and praising. Examples:

> Teaches: "Swallow that drool, Kathy, you look much prettier
> without it."
>
> Comforts: "What's the matter?"
>
> Assists: Subject pushes target's stroller to door.

4. <u>Dominant Behaviors</u>: interactions in which a person attempts to
    control the behavior of others or attempts to cause others to
    do what one wishes; most likely with younger children. Specific
    behaviors: Commanding action and demanding objects. Examples:

> Commands action: "Sit down.
>
> "Throw the ball."
>
> Demands object: "Get me a spoon."

5. <u>Succorant Behaviors</u>: interactions in which participant awaits or
    accepts the nurturant response of another; person signals to
    another the wish for nurturance; common in infants. Specific
    behaviors: following, questioning, requesting help, showing,
    boasting. Examples:

> Requests help: "I'm slipping."
>
> Questions: "Am I coloring nice?"
>
> Boasts: "We can swing by ourselves."

These behavior systems were proposed by Whiting, Child and Lambert
(1966), pp. 43-64.

APPENDIX IV

Photographs of Targets

PHOTOGRAPH OF TARGET #1

Kathy, 7:4 years old, spastic athetoid, wears leg braces, and uses walker, drools slightly and occasionally misarticulates, is sociable, has several good friends, especially Paula (target #2), can lead and direct social groups.

PHOTOGRAPH OF TARGET #2

Paula, 9:9 years old, spastic quadriplegic, spina bifida,
encephalocele, wears full body brace attached to parapodium with foot
restraints, can use walker, occasionally in a stroller, limited use
of hands, slight facial disfigurement, assymetrical eye placement,
has shunt, tilts head to one side, is extremely verbal and socially
outgoing, good friends with targets #1 and #6 (one of the three targets
not used during the interview procedure), dependent on adults for
movement from one place to another.

PHOTOGRAPH OF TARGET #4

Benjamin, 4:9 years old, spastic athetoid quadriplegic, with articulation disorder, no independent locomotion, usually confined to adaptive seating designed to restrain flailing arm and head movements, very well liked child, socially ambitious to be like nonhandicapped children, assertive of own limited competence. Threatens to "beat-up" classmates with boxing like motions of flailing arms, perceived as a jokester.

PHOTOGRAPH OF TARGET #5
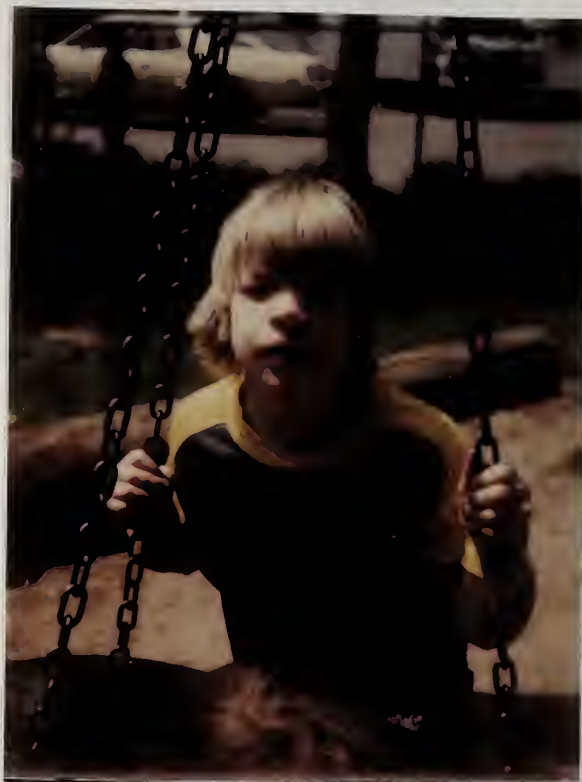
Ricky, 7:0 years old, right hemiplegic and developmentally delayed, receptive and expressive language delayed, autistic like tendencies, runs with awkward gait, socially isolated, has frequent emotional outbursts and uncontrollable behavior, cries, yells, repeats ritualized speech, most often with a supervising adult, often swinging, jumping or wandering alone.

PHOTOGRAPH OF TARGET #8

Jeff, 6:11 years old, severe spastic quadriplegic, receptive and expressive language delay, wheelchair bound, encephalocele with shunt, very limited social interactions, repeats few rote phrases ("I like you"), younger sister and first cousin attend program.

APPENDIX V

Interview Levels

APPENDIX V

INTERVIEW LEVELS

Level 1 criteria.

    Answers few questions
    Makes almost no spontaneous comments
    Can be distracted, irritable, may try to end interview

    Makes several photo-based comments
    Focuses on self, strays from topic to talk about self
    Confuses genuine identity of target person with photographic identity
    Makes few distinctions between targets, may use same phrases repeate
    May have no idea of "handicap"
    Categories may be contradictory
    Frequently describe targets as kids
    May see no differences in self and target

Level 2 criteria.

    May demonstrate level 1 criteria plus additional level 2 criteria.
    Usually defines target as handicapped
    Gives more description of physical characteristics
    Can exhibit extremely negative feelings to target
    Most often defines handicap as inability to walk
    Explanation for handicap may be sickness, broken leg, or accident
    May have positive feelings to target

Level 3 criteria.

    Makes distinctions between targets.
    Makes several spontaneous comments indicating generalizations
        that are reasonable
    Generally accurate in physical descriptions, age guess
    Uses unlucky correctly
    May find ways that target is both similiar and different to self
    Does not always indicate that differences from self are negative
    May refer to psychological dimensions
    Reasons for existence of handicaps are less clear, not willful
        on part of target
    Few contradictions
    Occasional level 2 statements

APPENDIX V

SAMPLE INTERVIEWS AT LEVELS 1, 2, and 3

Level 1.

Randy (4:2) on Benjamin (# 4)

    E. Can you tell me who this is?
    R. Benjamin
    E. Do you play with Benjamin?
    R. No.
    E. Do you like Benjamin?
    R. Nods yes.
    E. Yes. How old is Benjamin?
    R. Two. (same answer for all targets)
    E. Tell me something about Benjamin.
    R. He gots a dump truck. (photo)
    E. Is Benjamin like you?
    R. Yeah.
    E. Is Benjamin different from you?
    R. Yeah. Me don't like him!
    E. Why not?
    R. Bangs loudly on table, Cause! points to own picture.
    E. Tell me about Benjamin.
    R. no response
    E. Is Benjamin handicapped?
    R. Yeah.
    E. What's that mean?
    R. He aint got style.
    E. Do you think Benjamin is bad or good?
    R. no response
    E. Do you think Benjamin's a kid or a baby?
    R. Baby.
    E. Do you think he's lucky or unlucky?
    R. Yeah.

Judy (5:2) on Paula (# 2)

    E. OK, let's do another one. Who's this?
    J. Paula.
    E. Right. Do you ever play with Paula?
    J. nods yes.
    E. Do you know how old Paula is?
    J. Hmm hmm. (negative)
    E. Can you guess?

J. She doesn't tell me.
E. Well, what do you think, how old is Paula?
J. I don't know. Like Benjamin (hadn't given age for Benjamin)
E. Tell me something about Paula.
J. She play with me.
E. What do you play when you play together?
J. Play sandbox (photo)
E. Is there anything special about Paula?
J. No.
E. Is Paula handicapped?
J. nods no.
E. Do you like Paula?
J. nods no.
E. What do you not like about Paula?
J. pause...Dirty.
E. She's dirty?
J. Um hum.
E. Do you think Paula is lucky or unlucky?
J. nods yes.
E. Do you think she's bad or good?
J. Good.
E. Do you think she's a kid or a baby?
J. A girl.

Mark (5.0) on Ricky (# 5)

E. You pick one. Let's turn it over and see who it is.
M. It's Ricky. There's a little someone there (in photo)
E. We can't tell. Let's talk about Ricky. Do you know how old
   Ricky is?
M. No.
E. Can you guess?
M. I dunno.
E. Do you ever play with Ricky?
M. No.
E. Can you tell me something about Ricky?
M. No.
E. Can you tell me what Ricky likes to do?
M. No.
E. Is there anything special about Ricky?
M. No.
E. A teacher told me that Ricky was handicapped. Do you know what
   that is?
M. No.
E. Does Ricky play the way that you play?
M. No, I just play with big boys who are not hanbi-, (sic) handi-
   cap.
E. No?
M. Um um, I play with other boys that can walk.
E. Can Ricky walk?

M. Yeah, he can walk right, but I play with, play with the other boys that I do like.
E. And what does Ricky do that makes you not want to play with him?
M. Nothing.
E. Do you think Ricky is bad or good?
M. Good.
E. Do you think Ricky is lucky or unlucky?
M. I dunno.
E. Do you think Ricky is a kid or a baby?
M. A kid.

Level 2.

April (6:0) on Jeff (# 8)

E. Who do you think this is?
A. Jeff.
E. How about Jeff, do you ever play with Jeff?
A. I hate him. I only like Kurt and Alfred.
E. Well, just a few things about Jeff. Do you know how old he is?
A. Only...none (whispered)...Zero!
E. Hmm. Do you think Jeff is different from you? Is he just like you?
A. Uh uh. (negative)
E. How is Jeff different?
A. Cause.
E. Cause what?
A. Cause I hate him.
E. Are you handicapped?
A. No.
E. Is Jeff?
A. Yes. He can't walk.
E. Why not?
A. Cause he's in a wheelchair.
E. Do you think if somebody took him out of the wheelchair he might walk?
A. No. He'd fall.
E. He'd fall?
A. Yeah, if they let him go.
E. Why would Jeff do that?
A. I don't know.
E. What don't you like about Jeff?
A. Sometimes he pulls my hair.
E. Do you think Jeff is lucky or unlucky?
A. Unlucky.
E. Good or bad?
A. Bad
E. A kid or a baby?
A. A baby.

Lulu (4:3) on Ricky (# 5)

E. Who's that?
L. Ricky.
E. Do you play with him?
L .Yeah.
E. Do you like Ricky?
L. What those (in photo)
E. I can't tell, too far away. Do you play with Ricky?
L. Yeah.
E. Do you know how old he is?
L. He's four (self age)
E. Tell me something about Ricky.
L. I can't. Well,
E. What does he do?
L. He pulls hair and he be bad.
E. What does he do that's bad?
L. He pees in his clothes.
E. Oh.
L. I don't either. He do-do's in his clothes too.
E. He does? Why does he do that?
L. Cause he couldn't use the bathroom. He done ask M(teacher) and
   M started doing something.
E. You mean he asked M to take him to the bathroom and she was
   too busy so he do-do'ed in his clothes?
L. Yeah.
E. Would you do that?
L. I use the bathroom.
E. What about Ricky, is he different from you or just the same?
L. Same as Paula and Benjamin (other targets)
E. How?
L. no response.
E. Is he handicapped?
L. No. he can walk! He looks like he's handicapped but he still
   . walks.
E. Why does he look like he's handicapped?
L. Cause he got his legs like that and he look like he's handicap.
E. What do you mean about his legs?
L. Like this way (demonstrates)
E. Oh, they're bent?
L. Yeah.
E. But, he can walk, so you don't think he's handicapped?
L. Yep, he think he can fall, but he don't got a walker.
E. Why are his legs like that?
L. I don't know.
E. Do you like Ricky?
L. Yeah.
E. Anything you don't like?
L. Asks about tape recorder.
E. Tell me about Ricky, is he lucky or unlucky?
L. Unlucky.

E. Why?
L. I don't know.
E. Is he bad or good?
L. Bad.
E. Is he a baby or a kid?
L. He's a baby.
E. Why?
L. He cries all the time. When Randy hit him he cries.
E. Yeah. Is he like a kid ever?
L. Nods yes.
E. When?
L. I don't know.

Steve (4:4) on Kathy (#1)

E. Here's the last one.
S. Kathy.
E. You know her?
S. Yeah.
E. You play with her?
S. No.
E. Is she your friend?
S. One year, two years old.
E. Two? Is she a kid or a baby?
S. A kid, a girl.
E. Tell me something about Kathy.
S. She, she fighting.
E. Have you seen her fighting?
S. Yeah.
E. Tell me something about her.
S. Makes noises. She look like this... (poses)
   Hey, some notes! (E's)
E. They help me remember my questions. What else can you tell me?
S. She's unlucky.
E. Why?
S. Cause she is unlucky, no food.
E. She gets no food?
S. No.
E. Is she hungry?
S. No.
E. Why isn't she hungry?
S. Cause she fights.
E. That means she doesn't get hungry?
S. No.
E. Is Kathy handicapped?
S. Yes. First she, she, she fell down and bumped her head and that's
   where she got a car accident. Her legs are hurted.
E. They're hurted? Can she walk?
S. No. Tomorrow she's going to walk.
E. How will she do that?
S. On Tuesdays.

```
E. Hm.  Do you like her?
S. I hate her.
E. Oh. What do you not like about her?
S. When she fights.
E. Do you think she's lucky or unlucky?
S. Unlucky.
E. Bad or good?
S. Bad.
E. And a kid or a baby.
S. A baby.
```

Level 3.

Debbie (6:4) on Benjamin (# 4)

```
D. Benjamin.
E. What do you know about Benjamin.
D. He moves alot.
E. He does, doesn't he?
D. Cause he can't keep control.
E. Yeah, what else?
D. He has a corner chair.
E. Yeah, have you ever sat in it?
D. Yeah, if felt terrible.
E. Do you think it feels that way to Benjamin?
D. No.  He sits in it a lot.
E. Why does he do that?
D. It makes him stay there.
E. Do you know how old Benjamin is?
D. Four.
E. And is he handicapped?
D. Yes.
   It's different from Paula.  Paula can crawl like this and he
     can't.
E. Are there any things you don't like about Benjamin?
D. He moves a lot.
E. Do you think Benjamin's lucky or unlucky?
D. Unlucky.
E. Do you think he's good or bad?
D. Good
E. Do you think he's a kid or a baby?
D. Kid.
```

Carol (5:8) on Kathy (#1)

```
E. Who is this one?
C. Kathy.
E. Do you play with her?
C. Yeah.
```

E. How old is she?
C. Seven.
E. Can you tell me about Kathy?
C. She has a walker.
E. Anything else?
C. She drools.
E. What else about Kathy?
C. She has braces on her legs.
E. Is Kathy handicapped?
C. Yeah.
E. Do you know what happened to her?
C. She was born like that.
E. Will she ever be different?
C. When she grows up.
E. What will she be like then?
C. She'll need a big walker.
E. What else.
C. She'll stop drooling when she grows up.
E. Hum. Do you like Kathy?
C. Yeah.
E. Is there anything you don't like?
C. I don't like her braces and her...
E. Are they scarey?
C. No.
E. Do you think she's lucky or unlucky?
C. Unlucky.
E. Because of what?
C. She has braces and she drools.
E. Why is that being unlucky?
C. Cause she has a walker.
E. Would you like to have one?
C. No.
E. Do you think she's bad or good?
C. Bad, cause she has braces and a walker.
E. H m. Do you think she's a kid or a baby?
C. A kid.

David (7.4) on Jeff (# 8) David is Target # 6.

E. Who's that?
D. Jeff.
E. Do you ever play with him?
D. No, not that often.
E. Can you tell me something about him?
D. He sits in a wheelchair all day, if you can believe that.
E. Hm. How old is he?
D. I can't remember. He's not seven (own age)
E. Is Jeff different from you?
D. I think he's a little different.
E. How?
D. He keeps his head like this all day. I don't believe it.

D. I keep my head like this, or when it starts to hurt I keep it like this. (demonstrates)

E. Tell me a little more about Jeff. Is he handicapped?

D. ...pause, Yeah.

E. He is?

D. He can't walk like you. (E)

E. Do you know how he got that way?

D. I don't know.

E. Do you think he's going to stay that way?

D. I think he might, when he grows up, he's going to walk.

E. Is there anything about Jeff that you don't like?

D. Well, I like Jeff.

E. Everything?

D. Yes, of course.

E. Is there any other way that Jeff is different from you?

D. Cause he keeps his mouth open all day, too. And he keeps his head like that all day.

E. Do you think Jeff is lucky or unlucky?

D. He doesn't get nothing so he should be unlucky.

E. Do you think he's good or bad?

D. I think he's good but he screams all the time.

E. Is that good or bad?

D. That's ok, but sometimes I get sick of screaming. And the thing there (points to photo), so it will keep him in the wheelchair.

E. That strap?

D. Yeah, that's different too.

E. Do you think he's a baby or a kid?

D. He has to be a baby. What are you saying? He's not two years old.

E. OK

D. I don't know how old he is. But he's not two or one.

APPENDIX VI

Reliability of Social Behaviors

APPENDIX VI

Reliability of Social Behaviors

Behavior	% Reliability
Hits, Kicks	75
Takes Object	100
Refuses Object	100
Offers Object	87
Gives Object	75
Demands Object	100
Restrains	67
Roughhouses	--
Affection	87
Comforts Physically	--
Comforts Verbally	--
Touches	83
Requests Help	87
Assists	80
Watches, Observes	83
Greets	100
Insults	100
Praises	100
Shows, Exhibits	--
Boasts	--
Commands Action	87
Refuses Action	83
Complies to Action	83
Teaches	--
Mocks, Imitates	--
Imitates Speech	67
Questions	80
Talks With	67
Follows	--
	85