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# Social Intelligence: A Preliminary Investigation of Its Development in Children

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**SOCIAL INTELLIGENCE:  
A PRELIMINARY INVESTIGATION OF ITS DEVELOPMENT  
IN CHILDREN**

by

**Barbara J. Dydyk**

**A Dissertation Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy**

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# SOCIAL INTELLIGENCE:

## A Preliminary Investigation of its Development in Children

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### Introduction

#### Problem

Cognitive intelligence, the ability to manipulate concepts and ideas, has been extensively explored; this has resulted in a myriad of methods of assessment and theories of development. Yet social intelligence, the ability to deal with and manipulate people has been, surprisingly, somewhat bereft of close consideration. That people are more or less intelligent in the realm of social functioning has been documented since 1920 (Thorndike, 1920), but the components of this skill and their developmental course have received relatively little attention.

This study focused on the development of social intelligence in children. It recognized social intelligence as a composite, made up of three components. These were originally defined by Bronfenbrenner, Harding, and Gallwey (1958) under the title of social perception. These components include social sensitivity, predictive ability, and role-taking or empathy. Efforts were made in this study to explore the association of these components and their relationship to other significant variables such as cognitive intelligence, sex, interpersonal competence measures, and ordinal position.

## Review of the Literature

Social intelligence (hereafter referred to as SI) has been known by no single definition. It was initially defined as "the ability to understand and manage men and women, boys and girls ... to act wisely in human relations (Thorndike, 1920, p.228)". Other definitions have varied in emphasizing either the cognitive-affective or the action component of Thorndike's statement. Moss and Hunt (1927) labelled social intelligence as "the ability to get along with others (p.108)". Vernon (1933) included in his vast definition "the ability to get along with people in general, social technique or ease in society, knowledge of social matters, susceptibility to stimuli from other members of a group as well as insight into the temporary moods or the underlying personality traits of friends and strangers (p.44)". Wechsler (1958) also emphasized the action aspect of social intelligence, calling it "a facility in dealing with human beings (p.8)", whereas O'Sullivan, Guilford, and de Mille (1965) dealt with the cognitive-affective element, defining social intelligence as "the ability to understand the thoughts, feelings and intentions of other people as manifested in discernible expressionable cues (p.6)". Definitions of social intelligence can thus be dichotomized into an affective-cognitive vs. an action component.

Early research in the area of SI, based on Thorndike's (1920) definition focused on the assessment of this ability via the development of measuring instruments. Casual or developmental factors were at this time essentially ignored. With the failure to construct adequate tests (see Walker and Foley, in preparation), interest in SI



lay dormant until a relatively recent revival that once again emphasized assessment in adults (see Gough, 1965, 1968; Guilford, 1968; Guilford and Heopfner, 1971; O'Sullivan et al., 1965).

The birth of SI also witnessed within the field of social psychology a similar conception of what was labelled person perception, interpersonal processes or social perception (see Asch, 1946; Bronfenbrenner, Harding, and Gallwey, 1958; Hastorf, Schneider, and Palefka, 1970; Manis, 1971; Taft, 1955; Taguiri, 1969; Weinstein, 1969). This concept shares basic similarities with SI. Bronfenbrenner et al. (1958), for example, included three skills in their definition of social perception:

...social sensitivity, the ability to recognize through direct observation the behaviour or psychological states of another person or group; predictive skill, the ability to forecast actions or psychological states that are not being directly observed; and role-taking, the ability to act or feel in the manner of another person (imitation) or to act or feel in accordance with the expectations of the other person (responsiveness) (p. 97).

Bronfenbrenner viewed these three skills as interdependent. This definition thus shares Thorndike's emphasis on an affective-cognitive component (social sensitivity) and an action component (predictive skills and role-taking). Because of what Walker and Foley (in preparation) call "different orientations and concomitant disparate methods (p. 3)" social intelligence floundered, however, while research on person perception prospered.

In research in the area of person perception use was made of ratings of self and other and of a crude sort of role-taking via responding as if one were another on tests. Efforts were made to assess how people in general make accurate judgments about others and what characterizes good as opposed to poor judges. Social intelligence, on the other hand, used tests of individuals of a paper and pencil nature. Despite the apparent success of the former and the relative demise of the latter,

both approaches have proven to be somewhat unsatisfactory in providing adequate measures (Taft, 1955). Thorndike (1920), Bronfenbrenner et al., (1958), O'Sullivan et al. (1965), Rothenberg (1970) and Walker and Foley (in preparation) have advocated as a substitute the utilization of the natural social-interaction situation. Although its past usage has been infrequent it might in fact serve as the ideal mode of assessing both social intelligence and person perception. It might secondarily assist in indicating the essential similarities underlying the two approaches and aid in merging their presumed disparities.

### Social Intelligence in Children

Given that one accepts the existence of SI as defined in one of many ways, the question of its development remains as yet unanswered. It must be traced backwards to its roots in childhood. Research in the area of SI reveals an assortment of studies on particular aspects of this ability based on many limited age groups. This research has been conducted under a multiplicity of diverse but apparently related labels. Thus there are studies dealing with social sensitivity (Rothenberg, 1970), interpersonal perception or empathy (Borke, 1971), affect awareness (Gilbert, 1969), understanding of feelings (Flapan, 1968), role-playing (Bowers and London, 1965), empathy (Feshback and Roe, 1968; Cottrell and Dymond, 1949) and interpersonal competence (Weinstein, 1969). By way of an integrating structure for the similarities and differences of the aforementioned studies and as the structure upon which the hypotheses of this study will be based, Bronfenbrenner et al.'s (1958) definition of social perception will be used. Thus, for the purposes of this study SI will include social sensitivity, as the ability to recognize behaviour

or psychological states of another; predictive skill, the ability to predict or forecast actions or psychological states not observed directly; and role-taking, as the ability to act or feel as another person as well as responsiveness --- the ability to act or feel in accordance with the responses of another person. Consideration of SI demands investigation of both the separate broad categories specified and of their interaction.

In examining Bronfenbrenner et al.'s definition it appears that the sequence of components involved in social perception is laid out in logical order; social sensitivity does in fact seem to be a prerequisite for the development of both prediction and role-taking. In keeping with Thorndike's (1920) concept, understanding is necessary but not sufficient for action. Nor does it seem that SI arises "full-panoplied" and suddenly out of the young child's repertoire of behaviors, but rather that it occurs in graded steps over time (Borke, 1972). Thus, in seeking for its roots one might re-examine the Piagetian development of sensorimotor intelligence and specifically Piaget's concept of egocentricity (Piaget, 1967). Piaget stated that between 18 months and approximately seven years of age a child is basically egocentric; that is, he is "unconsciously centered upon himself (p.21)". The child is thus unable to take the viewpoint of others; nor is he able to disengage himself from his particular and unique view of things. He enters the world as an omnipotent "I", but as the gradual process of differentiating self from nonself occurs, he comes to identify feelings, sensations, etc., as unique to himself and separate from other feelings and sensations. There is, however, no distinct separation of self from his response to another; thus, the term "egocentric". The child thus appears to develop a sort of sensitivity to others (social sensitivity) as he moves away from a complete "centering" on himself.

In Murphy's study (1937), young children's responses to the distress of others were viewed as sympathetic; Murphy concluded that they were based on taking the role of the other. Borke (1971), using three-to-eight-year-olds responding to a task well within their capabilities, claimed that children as young as three years of age showed an awareness of the feelings of the other. She believed, therefore, that very young children are not totally egocentric but can "respond empathically to another person's perspective and point of view, (p.268)". It would seem, however, that in both studies what was being examined was the child's ability to identify feelings based on the feelings that the cues provoked in him; these feelings were consequently projected onto the character in question. Borke (1972) sees this as the initial necessary step in the development of SI. This is similar to what Weinstein (1969) calls "projective role-taking" and cannot be classed as understanding another's viewpoint, since understanding extends beyond merely the recognition of one's own similarly experienced affective states in another (see later section on role-taking and empathy).

Burns and Cavey (1957) found that nursery-school children, aged three to five years of age, judged picture drawings in terms of what they would feel in the situation (egocentric or autistic response), rather than by way of the cues presented to them (empathic response); older children (five to six years of age), however, appeared to adequately make the differentiation that the children depicted in the drawings were not in fact feeling what the subject himself would experience in that situation. Gollin (1958) using silent movies and presenting the same boy in four scenes (in two of which he was good and two bad), stated that the use of inference that is utilized in interpreting observed behavior is a relatively late phenomenon.

Piaget (1967) claimed that not until about seven to twelve years of age is a child able to "extricate" himself from his own viewpoint. Thus, what is called social sensitivity by Rothenberg (1970) and by Bronfenbrenner et al. (1958) and defined by the former as "the ability to accurately perceive and comprehend the behavior feelings and motives of others (p. 335)" apparently develops as the child "decenters". In the realm of person perception social sensitivity has its match in O'Sullivan et al.'s (1965) concept of behavioral cognition, "the ability to understand the thoughts, feelings and intentions of other people as manifested in discernible expressional cues (p. 6)".

That this sensitivity to the feelings of others increases with age has been documented in studies by Amen (1941), Dymond (1950), Gates (1923), Gilbert (1972), Hamsher (1971), Rothenberg (1971), Savitsky and Izard (1970), and Walton (1936). Gates (1923) and Savitsky and Izard (1971) have shown that children can reliably differentiate emotional expressions beginning at about age two and a half and continuing at a fairly regular rate to a criterion of about 75 percent at age ten years. Gilbert (1972) using children from age four to age six found that as they grew older they developed greater differentiation of affect concepts. Flapan's findings (1968) were in keeping with Piaget's view that older children are more capable of viewing a situation from the standpoint of another. Her research, utilizing sound motion pictures, indicated that interpretations of feelings and inferences of thoughts and intentions were rare in six year olds, but increasingly more prevalent in nine and twelve year olds. The results of her study have a somewhat limited application, however, since she narrowed her sample to girls of average of near-average intelligence from a middle-class neighborhood.

It may thus be postulated that social intelligence develops at a rate comparable to the maturation of the child's perceptual and cognitive processes. The developing child must be sensitive to feelings within himself, that is, he must have a self-perspective before he can deal with an "other" perspective wherein he recognizes affective states in another. The latter ability would seem to be partially dependent on a capacity called "cue sensitivity" (Weinstein, 1969) or selective focusing. Weinstein believed that this sensitivity results from attention to "subtle inflectional postural or physiognomic cues (p. 759)". Just as research indicates that social sensitivity develops over age, so also the cues utilized appear to vary from concrete to abstract over age (Bronfenbrenner et al., 1958; Flapan, 1968; Savitsky & Izard, 1971; Wollin, 1955).

The ability to predict or "forecast actions or psychological states that are not being directly observed (Bronfenbrenner et al., 1958, p. 97)" may be considered a transitional step between a child's ability to identify feelings in another and his ability to imaginatively get into the role of the other. Kerr and Speroff (1947) referred to this ability in the latter part of their definition of empathy when they described it as the ability to put oneself in the place of another and to anticipate his behavior. Many definitions of social intelligence and related research omit reference to this skill; yet a gap exists between the simple recognition or understanding of affective states in another and the child's ability to act by taking the role of the other. One must be able to first "anticipate the behavior of another...anticipation requires the development of conceptual facility far beyond the recognition of cues (Weinstein, 1969, p. 760)".

A certain similarity exists between predictive ability and what has been investigated in the area of person perception as ability to make predictions about the behavior of others in different situations or on tests, or by making judgments as to a prescribed person's character after brief periods of observation (Ausubel, 1955; Dymond, 1949, 1950; Estes, 1939; Milgram, 1960). Studies by Dymond (1949) and Milgram (1960) have even operationally defined what they label empathy as one's ability to predict the response of another on a personality test or in a social situation. Their studies might, however, better be considered among research in the area of predictive ability, and their concept of empathy regarded as a type of social insight.

Kerckhoff (1969) included predictive ability in his proposition that role-playing and role-taking are learned processes. He stated:

...what is first learned presumably is a set of contingencies involving self and other, such self-other contingencies only gradually merging into a more or less cohesive self-image and an image of the other as a consistent role performer, and then what develops is an ability to "read" and to predict the other as well as an ability to pattern one's own behavior so as to elicit the desired reaction from the other. (p. 234).

It seems that research on social intelligence has neglected predictive ability as a step that is dependent on the child's ability to identify feelings in others and is requisite for being able to imaginatively take the prescribed other's role. It is important that consideration be given to its appearance as an aspect of social intelligence.

The third skill included in Bronfenbrenner et al.'s (1958) definition of social perception is role-taking, "the ability to act or feel in the manner of another person (imitation) or to act or feel in accordance with the expectations of the other person (responsiveness), (p.97)".

A parallel differentiation within role-taking is made by Sarbin (1954) in defining role enactment as the overt acting-out of the part of another (imitation for Bronfenbrenner) in contrast to role-taking, the covert adaptation of the perspective of the other, the empathic response (Bronfenbrenner's responsiveness). The latter appears to be a higher level response dependent on the repertoire of responses garnered from the role enactment/imitation phase of role-taking.

Role-taking appears to constitute yet another aspect of Thorndike's (1920) "understanding" component of social intelligence, "to act wisely in human relations". The imitative aspect compares with Feshback and Roe's (1968) concept of empathy; they define this as "the vicarious emotional response of a perceiver to the emotional experience of a perceived object (p. 134)". They hold that this empathy "cannot be accounted for solely by the ability to recognize the affective experience of others...(although) social comprehension may be a necessary prerequisite for empathy (p. 136)".

Other definitions of empathy (Dymond, 1954; Cottrell, 1967; Hogan, 1969) emphasize an imaginative transposing of oneself, a taking of another's role or perspective. Hogan (1969) noted a consensus among dictionary definitions of empathy as "the intellectual or imaginative apprehension of another's condition or state of mind without actually experiencing that person's feelings and without any feedback as to the accuracy of one's performance (p. 308)". His definition, however, includes only the imaginative transposing of oneself; he does not appear to differentiate empathy from the more basic recognition of affect.

Because of the numerous, varied connotations of empathy, from Borke's (1971) use of the term to describe simple affect recognition to



Hogan's intellectual or imaginative functioning, the term role-taking will be substituted in this study. It is defined as the ability to emotionally get into the role of another and further defined using Bronfenbrenner's dual notion of imitation and responsiveness.

Relatively little research has been undertaken with role-taking in children. Bowers and London (1968) used the Dramatic Acting Test (DAT) and the Children's Hypnotic Susceptibility Scale (CHSS) to assess two aspects of a child's role-playing ability, i.e., his portrayal of others (DAT) and his portrayal of himself (CHSS) in an unfamiliar situation. They found that skill in role-playing in which children between five and twelve years of age took stereotyped roles increased with age. Although performance on the DAT and the CHSS were significantly correlated ( $r=.72$ ) this relationship disappeared when intellectual functioning was held constant. It was therefore hypothesized that two very different aspects of what was similarly labelled role-taking were being assessed by the DAT and the CHSS, comparable only by way of their common intelligence factor.

The DAT, as a role-taking measure, evidently assesses the stereotypic element in role-playing, a high score reflecting "the adoption of an attitude consistent with the cultural stereotype of the role and a logical sequence of lines which incorporates this attitude with a specific situation in the play (p. 502)". It thus appears to assess that aspect of role-taking that Bronfenbrenner's definition (1958) includes under imitation. Responsiveness to the other, what Flavell, Botkin, and Fry (1968) called "the real skill" in communication tasks, is thus not included.

Modification was thus made in the DAT in its utilization in this research to include a second part, a role reversal. Thus subjects' initial

responses would reflect the imitation phase while the reversed role would demand the subject's having adopted a character's perspective beyond simple identification and imitation. This approach would entail what Bronfenbrenner labelled "responsiveness".

Criticism might be made of the stereotypic roles of the DAT as limiting the creativity or flexibility of the behavior required by a subject in enacting the roles. All role-playing demands a basic knowledge of cultural mores, stereotypes, etc. Stereotypes would, therefore, appear to provide a basis for individuation in role-playing. As Weinstein (1969) stated, "a large vocabulary of refined personality stereotypes can lead to high levels of role-taking accuracy upon fairly short acquaintance (p. 761)"; such is assessed via the initial part of the DAT. The second part of this test should indicate the child's "willingness to abandon stereotypes and base role-taking on direct experience (Weinstein, 1969, p. 762)".

In a study by Hamsher (1971), 12 stories were presented in cartoon form; there was an initial emotional-type situation, the cues of which had to be understood in order to understand the hero's subsequent behavior and reaction. Each subject was asked to tell the story as an explanation of the plot and as other persons in the story would interpret it. Hamsher concluded that in assessing role-taking skills one is dealing with a developmental dimension beyond simple problem-solving and dependent on more than just intelligence. Criticism may be made of Hamsher's approach in having the child react to stimuli isolated from the total social situation. Past research with children that dealt with relatively singular aspects of a social situation (i.e., only one aspect of expressive behavior) by Burns and Cavey (1957), Dimitrovsky (1964), Gates (1923, 1927) and Rothenberg

(1971) were found to be seriously limited, since in real-life social situations a child responds to a totality of parts and not an isolated element. As Rothenberg (1971) stated, "The more complete and real a stimulus is, the less a child would have to rely on his own projections to complete his understanding of the situation (p. 33)".

In contrast to the rather limited research on emotional development, investigation of the development of social intelligence in the cognitive sphere has given rise to numerous studies in the area of role-taking (Devries, 1970; Flavell et al., 1968; Miller et al., 1970; Selman, 1970; Shantz & Watson, 1971). All appear to be based on the Piagetian notion of the development of concrete operations and the ability to decenter. The most extensive exploration was that done by Flavell et al. (1968). Flavell defined role-taking activity as "the attempted discrimination of another person's role attributes (p. 207)", discrimination referring to the cognitive and perceptual information-gathering mode of a particular subject and role attribute to the "inferable properties (p.6)" of an individual about which information is sought. He proposed five major aspects necessary for the development of social-cognitive functioning (all of which represent, as it were, interrelated hurdles). Tests assessing these skills throughout middle childhood provided evidence for the validity of his structure. According to the view of Flavell et al., social intelligence demands:

1. Existence of perspective whereby one recognizes that different people may have different points of view. In keeping with Piaget's notion of decentering it would seem that the child's understanding of perspective variation is extremely limited prior to about age seven and consequently the following categories are existent to only a limited degree.

2. Need or recognition that one must analyze another's perspective since it is at variance with one's own. These two categories constitute what Bronfenbrenner et al. (1958) include in their definition of social sensitivity.

3. Prediction or the ability required to differentiate or make inferences about relevant role attributes. Prediction according to Bronfenbrenner, as the ability to forecast, is comparable to Flavell's concept of prediction; the latter is in accord with Bronfenbrenner when he states that prediction entails "some understanding of people".

4. Maintenance of the ability to maintain in awareness the cognitions of another's perspective that are in competition with one's own.

5. Application or the knowledge of how to apply these cognitions to the role at hand, that is, the ability to "behave appropriately (Flavell, 1968, p. 210)". This is directly comparable to Thorndike's (1920) "ability to act wisely".

Thus, the structure which Flavell et al. posited for the development of role-taking and communication in the cognitive sphere is not without comparison to the developmental model of affective role-taking outlined in this research.

## Social Intelligence and Cognitive Intelligence

Allport (1937) has stated:

Experimental studies have found repeatedly that some relationship exists between superior intelligence and the ability to judge others...even within a high and narrow range of intelligence. Understanding people is largely a matter of perceiving relationships between past and present, between cause and effect, and intelligence is the ability to perceive just such relationships as these (p. 514).

Weinstein (1969) is in agreement, holding that there should be a positive correlation between measures of role-taking and IQ since a central part of intelligence is the ability to take multiple perspectives. However, to quote Shanley, Walker, and Foley (1970), "One of the major criticisms has been that what is measured (in studies on SI) is not distinguishable from verbal intelligence. Cronbach (1960) commented: 'No evidence of validity is yet available which warrants confidence in any present techniques for measuring a person's ability to judge others as individuals... (p. 319-320)'."

Most of the early tests for SI were of the paper and pencil variety and were utilized with adolescents and adults (Gough, 1965; Hoepfner and O'Sullivan, 1968; O'Sullivan et al., 1965; Walker & Foley, in preparation). Results are contradictory. Research findings on the George Washington Social Intelligence Test failed to indicate that this measure dealt with anything distinct from verbal ability. Gough (1965) found that the Chapin Social Insight Test was significantly related to several measures of abstract intelligence. Using the Guilford measures of SI, correlations with IQ were consistently significant for tenth and eleventh grade students (Hoepfner & O'Sullivan, 1968; O'Sullivan et al., 1965). Hoepfner and O'Sullivan's analysis of this relationship showed that IQ and SI exhibited a bivariate triangular distribution in which persons

with low IQ tended to range from high to low on SI while those with high IQ tended to have high scores on social intelligence. In Shanley et al.'s study (1971), using students from grades 6, 9 and 12, the majority of the correlations between IQ and SI measures (6 of Guilford's tests of SI) were significant; those for the 9th grade were so high as to raise the question about the independence of these two types of intelligence.

With children, a positive relationship has been found between intelligence and ability to judge others in studies by Gates (1923, 1927), by Rothenberg (1971) and by Gilbert (1970). Rothenberg, using tests of both verbal and non-verbal intelligence, found that non-verbal intelligence was more strongly related to social sensitivity in the third grade whereas there was a greater relationship between social sensitivity and verbal intelligence in the fifth grade. Despite the positive relationship between aspects of social intelligence and cognitive intelligence found in the above studies, Hogan (1967) implied that the relationship at least between empathy and IQ scores is still somewhat ambiguous and dependent on the population tested as well as the intelligence measure used.

Bowers and London (1965) found a correlation of their role-playing measure (DAT) of .71 with the WISC Vocabulary subtest; however, when corrected for age variance this correlation changed to .39. Thus, it seems that within ages social intelligence does not appear to correlate highly with cognitive intelligence, but yet correlates with increasing intelligence when examined developmentally, that is, over age.

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There is also some question as to the assessment of social intelligence by verbal measures since the verbal ability from which social intelligence scores are derived is also frequently used as a measure of cognitive intelligence. Existing measures of social intelligence have not as yet been refined sufficiently to separate the effects of the development of a common verbal factor. Borke's (1970) research utilizing cartoon faces to represent emotions (such as happy, sad, and angry), with three and five year olds provided a single attempt to assess empathy without relying on verbalization.

### Social Intelligence and Sex

Contrary to many cultural expectations most studies involving the relationship between sex and social intelligence have found no sex differences (Borke, 1970; Gilbert, 1968; Hamsher, 1971; Rothenberg, 1970; Taft, 1955). Borke (1970) accounted for this by the fact that modern parents tend to see intelligence, that is, emotional awareness and empathy, as desirable for both males and females, and aggressiveness as a less desirable trait for males than in previous generations. However, both Gollin (1958) and Dimitrovsky (1964) found school-aged females to be significantly superior to males; they postulated that this finding was attributable to the fact that the play of young female children involved greater interaction with people, feelings, and descriptions of behavior. Bronfenbrenner et al. (1958) were in accord, arguing that females should be superior to males on SI abilities. Shanley et al. (1971) also found evidence for female superiority on two of the Guilford measures of social intelligence. Rose, Frankel, and Kerr (1956), using the Empathy Test, found empathy scores improved with age more for college men than for

college women. They evidently anticipated such results based on their belief that men lead less sheltered lives than women, thus allowing them to gain greater empathic insight into people. At present, the validity of their belief would be questionable. The relationship between sex and social intelligence and each of its composite parts thus remains a moot point.

### Social Intelligence and Interpersonal Competence

Logically a socially intelligent individual ought to have good interpersonal relationships. Studies by several investigators (Bell & Hall, 1954; Dymond, 1956; Dymond, Hughes, & Raabe, 1952; Hogan, 1969; Rothenberg, 1970; Sarbin, 1954) indicate a positive relationship between aspects of social intelligence, usually social sensitivity, and social adjustment. Measures of social adjustment have varied between peer and teacher ratings of various sorts (Richards & Simon, 1941; Rothenberg, 1970; Yarrow, 1946). No studies, however, have attempted to assess the relationship between role-taking or predictive skills and interpersonal functioning of the child.

### Techniques in Assessing Social Intelligence

Thorndike (1920) stated that in measuring social intelligence "a genuine situation with real persons is essential (p. 231)". In accord with this are Bronfenbrenner et al. (1958), O'Sullivan et al. (1958), O'Sullivan et al. (1965), and Rothenberg (1970). However, it seems that in studies exploring social intelligence and particularly those in the area of social sensitivity cited above, the child was asked to recall some earlier experience with a particular person. It was thus necessary for the child to do more than simply comprehend some particular social



interaction since he has to recall the previous interaction and then abstract from it. Given that the child was presented with a verbal description of a social situation, an ability to work abstractly with ideas and verbal skills was required. If the child was asked to compose a story to a particular picture (Feffer et al., 1966) much of his own personality would be confounded with his comprehension of the social situation; it would thus be difficult to separate the child's projections from an accurate appreciation of his social intelligence. In studies that were concerned with only one or two aspects of social expressive behavior (facial expression, voice tone, etc.) there were limitations since in real interpersonal situations the child reacts to a configuration of stimuli and not to isolated elements. In a study by Gates (1927) using repetition of the alphabet in various emotional tones, it was found that there was an increase in ability to interpret the vocal expressions with age, but a larger percentage of correct interpretations was made with visual as contrasted to auditory stimuli.

Bronfenbrenner et al. (1958) claimed that individuals respond to a totality of environmental cues depending upon the saliency of each of the four types of content of a social situation within their phenomenal field (Wollin, 1955). They categorized this content as physical, actional, characterological, and experiential. It is therefore necessary that each person be presented with the total stimulus configuration from which he might extract necessary cues. Shapiro (1969) found differences in responsitivity to facial or linguistic cues, certain individuals responding to facial and others to linguistic cues. Studies by Savitsky and Izard (1970) and Gilbert (1969) also point to a shift from the physical to the experiential with age.

Adinolfi (1971) postulated that people who are able to accurately predict the response of others use many available cues in a complex cognitive situation and that reliance on one mode results in the selective avoidance of certain modes of communication.

Sound motion picture films eliminate all of the above difficulties as well as providing (cf. Flapan, 1968) a stable stimulus situation and presenting a concrete situation for children to observe. Movies were used in this research in the assessment of the child's social sensitivity and his predictive skills. Movies present social situations that are excellent approximations of reality. Of benefit to the experimenter is the fact that he is provided with a stable stimulus for presentation and can control what is to be observed. Kozel and Gitters (1968) found that perception of emotion varied according to the mode of presentation, audio-visual proving best, then visual, audio and, as least effective, still-pictures. Howell and Jorgensen (1970), however, found that audio-visual, audio, and visual cues were all judged equally accurately with each being significantly more accurate than transcripts.

Tomkins and McCarter (1964) questioned the use of movies, stating that not even a set of moving pictures is always an adequate stimulus for the recognition of affect. They quoted research by Landis and Hunt (1939) wherein it was found in using a movie camera with speeds up to 3,000 frames per second that "the speed of response of facial muscles such as partial eyelid closure are too rapid to be seen by the naked eye and that the patterning of both facial and gross bodily movements is so complex that one must resort to repeated exposure of the same movies if one is to extract the information which is emitted by human beings responding with affect in changes of facial and bodily movement (p. 123)". It would seem,

however, that they postulated feelings as being reflected primarily in facial responses controlled by "innate subcortical factors", and therefore, placed less importance on the inclusion of cues other than facial. This appears contrary to the expectation that the total configuration of cues contributes to an affective impression.

### Present Research and Hypotheses

Studies dealing with social intelligence appear to have focused on disparate elements under the guise of dealing with the total concept. Social intelligence appears to be a composite; recognition in research has not been paid to its separate aspects. In this research the author has made no effort to define or verify what social intelligence is, in fact, but has sought to investigate social processes which apparently contribute to the development of a socially intelligent person. An attempt is also made in this research to put into perspective on the developmental continuum those studies that focused on isolated aspects of SI.

It is thus postulated that social intelligence is manifested by at least three aspects that are developmentally interlaced; social sensitivity, predictive ability, and role-taking. This study examined each of these and their inter-relationships as well as several variables relating to their development.

In summary, this research addressed itself to five basic issues in the development of social intelligence in children. The hypotheses are as follows:

1. Social sensitivity, predictive ability, and role-taking develop over age.

2. Social sensitivity is associated with the development of predictive ability and both are related to the development of role-taking.

3. Social intelligence is related to verbal IQ.

4. Children who are more socially sensitive and who show more predictive and role-taking ability have greater interpersonal competence as assessed by teacher ratings.

5. There are no clear-cut influences of sex or ordinal position on social intelligence.

## Method

### Subjects

The subjects of this investigation were 60 children, 10 boys and 10 girls at each of the following ages: 6, 8, and 10 years. These were Caucasian children enrolled in regular classrooms at a middle-class suburban parochial school. They were selected at random on the basis of age.

### Measures

The four measures used in this study were: the Role-Playing Test (Bowers & London, 1965) modified by the author for this investigation, selected movie clips chosen from those utilized in a study done at Children's Memorial Hospital, Chicago, an adjective check list for teachers presented in the style of the Fels Behavior Rating Scale (Richards & Simons, 1941), and an intelligence measure, the vocabulary subtest of the Wechsler Intelligence Scale for Children, to assess verbal-expressive ability.

Dramatic Acting Test (DAT). A modified version of the DAT (Bowers & London, 1965) was used. It was originally designed for children from kindergarten through 12 years of age and was administered to about 100 children prior to its initial use. In its original form no props were necessary for administration. One experimenter gave the test while another observed and recorded via a one-way mirror. The latter could be replaced by a tape-recorder, thereby permitting later independent scoring and the assessment of inter-scorer reliabilities. Bowers and London (unpublished norms) attained interrater reliabilities of .80 and higher

for judges to whom scoring manuals and verbatim transcripts were available.

The original DAT consisted of six sets of lines for six playlets intended to last approximately 1 minute each. The general nature of the test situation was described to the child and he was assigned to a specific character and given the first line of the playlet. There were three standard experimenter lines in each playlet; the subject's lines were to be invented by each subject in response to the experimenter's preceding line. The child was given the roles of mother, father, friend, bully, teacher, and sheriff, while the experimenter took the role of a child who has broken a lamp, a peer who has lost money, a younger child who wants to play with a bully, a child who complains to his teacher about the behavior of her classmate, and a robber. Scoring was done on the basis of the content of subjects' responses and on the cultural stereotypes associated with the roles demanded in the test.

In the modified form of the DAT, puppets were substituted within the six playlets. Six hand puppets (two boys, two men, one woman, and one girl) were used with the notion that the child might more easily get into the prescribed roles if there was some mechanism that would place some distance between the subject and the intended role. As well, the number of standard experimenter lines was increased to four. Following each of the regular playlet scripts there was also a reversal of roles wherein the experimenter took the subject's previous puppet role and vice versa, in order to better assess the subject's role-taking ability (responsiveness). Again, four standardized lines were used by the experimenter, to which the child responded. A description of the test itself and the revised scoring system can be found in Appendix A. Interrater

reliability for the revised DAT was .96 for 2 judges using 10 records obtained from a pilot study; the judges were 2 college students trained in the use of the revised scoring system and provided with verbatim transcripts.

Movies. The movie clips used in this study were chosen from among a large group of brief excerpts utilized in a study done at Children's Memorial Hospital, Chicago, to assist fourth to eighth graders to deal with feelings. The movie clips were initially selected by the Children's staff from full-length commercial productions with a view to choosing scenes having emotional relevance for elementary school children. Among these were included, for example, the movie used by Flapan (1968).

The selections made for this study were based on brevity, on variety of emotion expressed, and on a representativeness of characters including boys and girls, men and women. Flapan (1968) found that film excerpts had to be short to retain the child's attention and insure that reports of the film were not assessing the child's memory. Inclusion of adults was emphasized since Flapan (1968) also found little spontaneous mention of adult feelings, intentions, and thoughts by the youngest children although those mentioned appeared to increase with age. An effort was also made to select clips dealing with scenes that were realistic but relatively incomparable to the subjects' daily lives and with actors unfamiliar to the subjects. This is contrary to Flapan (1968) who selected situations with "some similarity to the experience of most children (p. 10)". This selection was based on the criticism of rater-research (Rothenberg, 1970; Bronfenbrenner et al., 1955) wherein the rater simply ascribes traits to specified others that are basically

just descriptions of himself. The four movie clips chosen included the following:

- I (1'19") A little girl annoying a television repairman with questions and attempts to help (from Samuel Goldwyn's Production "Our Very Own").
- II (1'14") A boy watches and waves to all the hobos on a train and is disappointed when no one returns his greeting. He is happy when, at the end, one is singing and waving. (from MGM's "Human Comedy").
- III (54") A girl jumps over a fence and falls on her face in the snow while others, watching from a window, laugh. The girl jumps again, successfully this time, and throws a snowball at the others. (from MGM's "Little Women").
- IV (46") A group of boys in a dorm pick on one boy, throw his pillow out the window and lock him on the ledge when he goes to get it. (from MGM's "Her Twelve Men").

Emotions selected included happiness, anger, sadness, embarrassment, anxiety, surprise, and distress.

The child was introduced to the movie situation by a set of orienting instructions. He was then shown the movies; these were interrupted by the experimenter at particular points. The child was then asked to predict what the character in question would do or feel next. Each movie was then shown again and subjects were asked to identify the feelings of specific characters at specific points in the movie. Following the initial responses, the experimenter used a series of graded questions associated with each scene and character if the child could not answer the initial question satisfactorily (see Appendix B). Probing via questions was emphasized by Flapan (1968); she found that in relying on the child's own narrative repetition of the film that she did not obtain an adequate account of the child's ability to perceive appropriate material. Responses were tape-recorded and were transcribed and scored later according to the scoring system presented in Appendix B. A description of the



questions utilized to assess social sensitivity and predictive ability can be found in Appendix B. Inter-rater reliability for predictive ability was .86 and for social sensitivity it was .91.

Adjective Check List. The adjective check list utilized in this study is based on a selection of adjectives (each measures a single trait) from the Fels Child Behavior Rating Scale (Richards & Simons, 1941). It was utilized as well by Rothenberg (1970) in her consideration of social sensitivity and interpersonal competence. The rating scales were originally designed to measure what were construed to be important personality traits in nursery school-aged children and have been modified for use with older children. The particular scales selected for use in this study included: leadership, gregariousness, cruelty, sensitivity to others, mood (cheerful-depressed), friendly-apprehensive, sense of humor. Their specific definitions and degrees of variation (specified by cue points 1 to 4) can be found in Appendix C.

Ratings were identified by the numbers 1 to 10 on the scoring sheets and scoring was done using a millimeter scale, with intervals from 1 to 10 equaling one millimeter. With a minimal score equal to 10 and a maximal score of 99, a reading of the particular scale gave the score directly.

Vocabulary Subtest of the Wechsler Intelligence Scale for Children (WISC). The vocabulary subtest of the WISC was utilized to estimate verbal intelligence. Raw scores on this subtest were converted to standard scores; the latter were used as estimates of verbal intelligence. Inter-rater reliability for the vocabulary measure was .92 for 2 judges using 10 records.

## Procedure

The methodology of this study involved the initial administration of the modified Dramatic Acting Test (Bowers and London, 1965) and the added role reversal. Each child was seen individually by the investigator. He was taken from his classroom to an isolated room. He was first asked his name, age, birthdate, grade, and his ordinal position within his family. The situation was then explained to him as follows:

Today we're going to see how good a puppeteer you are. You've seen puppet plays, haven't you, perhaps on T.V.? Well, you and I are going to put on a group of very short puppet plays. You're going to make the puppet act just like some person would...like you've seen puppets do on T.V. The only difference is that you're going to make up the lines for your puppet as we go along. Okay? All you have to do is make the puppet act just like the person I tell you. Make him say just what the person would. Let's pretend we're putting on a puppet show for T.V. In fact, we're going to record it and perhaps we can listen to it later. Would you like that? There will be six little plays. Now, for each play I will give you a puppet and tell you who the puppet is supposed to be. My puppet will say the first line of the play. Then your puppet will make up a line. And we will keep going. Do you understand?

After each child had completed this session he was rewarded with candy and returned to his classroom. He was requested not to divulge to his classmates what had occurred in the testing room.

Two weeks later the child was again taken individually to the same testing room by the same examiner. At this time he was shown a series of sound motion picture movie-clips, as in Flapan's investigation (1968).

The instructions were as follows:

\_\_\_\_\_ (name of child) we are interested in finding out what children see when they watch movies. I have here some movies of different children doing different things. I would like you to watch these movies closely and when I ask you, to tell me how the different people I point out to

you are feeling. I would also like to know what you think they might do next. There are no right or wrong answers. I am only interested in finding out what you think the people in the movies are feeling. Some of the movies are harder to figure out than others. Just do your best.

Verbal reinforcement was given to all subjects in both parts of the test on a predetermined basis. Candy rewards were given at the termination of this testing session. Again the child was asked not to reveal what had occurred in the testing session.

Following completion of the movies the child was administered the Vocabulary subtest of the Wechsler Intelligence Scale for Children.

Within the interval of two weeks between the two child-testing sessions the teachers of the children utilized as subjects were asked to complete an adjective check list for each child using the seven dimensions of interpersonal effectiveness and adjustment. This check list was presented in the style of the Fels Child Behavior Rating Scale (Richards & Simons, 1941). Instructions to the teachers for completing the Check List were as follows:

We are interested in your ratings of each of the selected children on the following scales: leadership, gregariousness, cruelty, sensitivity, mood, friendliness-apprehension and sense of humor. Please familiarize yourself with the scales before beginning the check list. In answering try to concentrate on building a general impression of the child's behavior on each scale. Try not to concentrate on concrete incidents and details. It would be better therefore to rate all of the selected children in your group on each scale before passing on to the next. You can freely compare one child with another as the rating proceeds, thereby changing previous ratings as needed. Try to disregard the age of a child in comparison to his peers. We are interested only in your ratings of his behavior; use the cue points only as reference points.

## Results

This study addressed itself to five main areas of concern:

(1) the development of social sensitivity, predictive ability, and role-taking over age, (2) social sensitivity as related to the development of predictive ability and both social sensitivity and predictive ability as associated with the development of role-taking skills, (3) the relationship of social intelligence (i.e., social sensitivity plus predictive ability plus role-taking skill) to verbal intelligence, (4) the relationship between social sensitivity, predictive ability and role-taking ability to interpersonal competence as assessed by teacher ratings, and (5) the relationship of social intelligence (social sensitivity plus predictive ability plus role-taking skill) to sex and to ordinal position. The results obtained in each of these areas will be summarized individually.

### The Development of Social Sensitivity, Predictive Ability and

### Role-Taking Over Age

Table 1 presents the descriptive statistics for the social intelligence measures according to the age and sex of the subjects. In order to analyze the effect of the age and sex of the subjects on the social intelligence measures a 2 x 3 analysis of variance was conducted for each of the five social sensitivity measures, the one predictive ability measure and the three role-taking measures.

TABLE 1

Means and Standard Deviations  
for Social Intelligence Measures According  
To Age and Sex of the Subjects (N=60)

| Variable                  |           | Age 6  |        | Age 8  |        | Age 10 |        |
|---------------------------|-----------|--------|--------|--------|--------|--------|--------|
|                           |           | Female | Male   | Female | Male   | Female | Male   |
| <b>SOCIAL SENSITIVITY</b> |           |        |        |        |        |        |        |
| Movie 1                   | <u>M</u>  | 6.50   | 6.70   | 7.40   | 7.80   | 10.60  | 7.70   |
|                           | <u>SD</u> | .85    | 2.21   | 2.88   | 2.30   | 6.65   | 2.36   |
| Movie 2                   | <u>M</u>  | 4.40   | 4.80   | 6.50   | 6.10   | 10.00  | 7.10   |
|                           | <u>SD</u> | 1.08   | 1.55   | 2.46   | 2.69   | 4.83   | 2.77   |
| Movie 3                   | <u>M</u>  | 5.10   | 4.60   | 6.80   | 5.30   | 11.80  | 7.70   |
|                           | <u>SD</u> | 1.60   | .84    | 3.12   | 2.79   | 6.55   | 1.89   |
| Movie 4                   | <u>M</u>  | 5.00   | 5.20   | 7.50   | 5.30   | 10.10  | 8.40   |
|                           | <u>SD</u> | 2.11   | 1.81   | 1.18   | 2.45   | 5.32   | 2.17   |
| Movie Total               | <u>M</u>  | 21.00  | 21.30  | 28.20  | 26.50  | 42.50  | 30.90  |
|                           | <u>SD</u> | 3.33   | 2.83   | 8.65   | 8.80   | 21.72  | 5.72   |
| PREDICTION                | <u>M</u>  | 11.97  | 11.22  | 12.92  | 12.35  | 15.03  | 13.58  |
|                           | <u>SD</u> | 5.63   | 2.50   | 3.10   | 4.27   | 5.38   | 2.65   |
| <b>ROLE-PLAYING</b>       |           |        |        |        |        |        |        |
| Imitation                 | <u>M</u>  | 120.50 | 137.00 | 163.75 | 152.00 | 176.25 | 169.00 |
|                           | <u>SD</u> | 21.27  | 21.85  | 16.08  | 22.82  | 19.12  | 15.55  |
| Role Rever-<br>sal        | <u>M</u>  | 11.08  | 12.90  | 14.83  | 12.98  | 15.85  | 14.68  |
|                           | <u>SD</u> | 2.07   | 2.88   | 2.28   | 1.64   | 1.40   | 2.68   |
| Total                     | <u>M</u>  | 23.13  | 25.50  | 30.20  | 27.18  | 33.48  | 31.58  |
|                           | <u>SD</u> | 3.83   | 4.46   | 5.38   | 4.96   | 3.00   | 4.15   |

The two dimensions in each analysis of variance include the two levels for sex and the three levels for age.

The results of the analysis of variance for the social sensitivity measures based on the movies are presented in Table 2. Inspection of the results of Table 2 indicate that there was a significant main effect ( $p < .001$ ) between all social sensitivity measures except Movie 1 and the age of the subjects. The sex of the subject did not exert any influence on the social sensitivity measures. Analyzing the direction of the main effect for age via the Newman-Keuls method indicated that 10-year olds achieved significantly higher scores on each of the social sensitivity measures except Movie 1 than did both the 6- and the 8-year olds. Similarly, 8-year olds attained significantly higher scores than 6-year olds. Thus, the scores on the majority of the social sensitivity measures showed the anticipated relationship, with the younger child tending to achieve lower scores than the older child.

Table 3 presents the results of the analysis of variance for the measures of predictive ability and role-taking skill. Since neither of the main effects was significant for predictive ability, the data did not support the hypothesis that the child's ability to predict the behavior of an observed individual is dependent on the sex or the age of the child. There was a significant main effect ( $p < .001$ ) between all measures of role-taking skill and the age of the subjects. Role-taking ability thus appears to be directly dependent upon the age of the child; there was no significant difference between the role-taking ability of boys or of girls. The Newman-Keuls method, used to analyze the direction of the main effect for age, revealed that except for predictive ability

TABLE 2  
 Analysis of Variance of Age and Sex For  
 Social Sensitivity Measures (N=60)

| Source    | df | Movie 1   |          | Movie 2   |          | Movie 3   |          | Movie 4   |          | Movie Total |          |
|-----------|----|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-------------|----------|
|           |    | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u>   | <u>F</u> |
| AGE       | 2  | 33.02     | 2.87     | 78.52     | 9.85***  | 123.80    | 11.06*** | 86.62     | 10.79*** | 1225.50     | 10.88*** |
| SEX       | 1  | 8.82      | 0.77     | 14.02     | 1.76     | 43.35     | 3.87     | 12.15     | 1.51     | 281.67      | 2.50     |
| AGE x SEX | 2  | 17.12     | 1.49     | 14.82     | 1.86     | 21.60     | 1.93     | 4.85      | 0.60     | 203.02      | 1.80     |
| SUBJECTS  | 54 | 11.50     |          | 10.97     |          | 11.20     |          | 8.03      |          | 112.62      |          |

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .001$

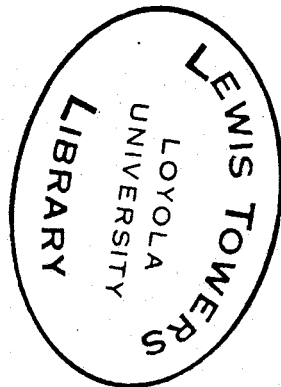


TABLE 3  
 Analysis of Variance of Age and Sex  
 For Prediction and Role-Taking Measures (N=60)

| Source    | df | <u>MS</u> | <u>F</u> | ROLE-PLAYING |          |               |          |           |          |
|-----------|----|-----------|----------|--------------|----------|---------------|----------|-----------|----------|
|           |    |           |          | IMITATION    |          | ROLE REVERSAL |          | TOTAL     |          |
|           |    |           |          | <u>MS</u>    | <u>F</u> | <u>MS</u>     | <u>F</u> | <u>MS</u> | <u>F</u> |
| AGE       | 2  | 37.45     | 2.21     | 9969.48      | 25.82*** | 54.13         | 10.99*** | 337.71    | 17.72*** |
| SEX       | 1  | 12.66     | 0.75     | 10.42        | 0.03     | 2.40          | 0.49     | 10.84     | 0.57     |
| AGE x SEX | 2  | 10.70     | 0.06     | 1151.98      | 2.98     | 19.13         | 3.88     | 40.58     | 2.13     |
| SUBJECTS  | 54 | 16.95     |          | 386.14       |          | 4.93          |          | 19.06     |          |

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .001$



10-year olds achieved significantly higher ( $p < .01$ ) scores than did the 6- and 8-year olds and the 8-year olds obtained significantly higher scores than the youngest group. Thus, as with the majority of the social sensitivity measures, the anticipated relationship was shown for the role-taking measures, with the younger child tending to achieve lower scores than the older child.

#### Relationships Among Measures of Social Sensitivity, Predictive Ability, Role-Taking.

Table 4 presents the Pearson product-moment coefficients of correlation ( $r_s$ ) among the nine measures of social intelligence. All measures were significantly related to each other at at least the .05 level of significance. The intercorrelations among social sensitivity measures varied between .61 and .94 ( $p < .001$ ) and those for the role-playing measures varied between .73 and .88 ( $p < .001$ ).

Because of the significant relation of age to each of the social intelligence measures (see preceding section) an attempt was made to control for the effects of age. Table 5 presents the relationship among the nine measures of social intelligence when the effects of age were partialled out. The degree of relationship is decreased in all cases. The intercorrelation among social sensitivity measures (varying between .56 and .72) and among role-playing measures (varying between .60 and .81) remained significant at the .001 level. However, the social sensitivity measures, particularly for Movies 1 and 3 appeared to be less significant predictors of role-taking measures when the effects of age were controlled for. Thus, age appeared to play a significant part in the degree of association of social intelligence measures with each other.

TABLE 4

## Relationship Among Measures of Social Intelligence

| Social Sensitivity | Movie 1            | Movie 2            | Movie 3            | Movie 4            | Movie Total        | Predic-<br>tion   | Role-Playing       |                     |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|---------------------|
|                    |                    |                    |                    |                    |                    |                   | Imitation          | Role Reversal Total |
| Movie 1            |                    |                    |                    |                    |                    |                   |                    |                     |
| Movie 2            | .61 <sup>***</sup> |                    |                    |                    |                    |                   |                    |                     |
| Movie 3            | .74 <sup>***</sup> | .79 <sup>***</sup> |                    |                    |                    |                   |                    |                     |
| Movie 4            | .66 <sup>***</sup> | .73 <sup>***</sup> | .79 <sup>***</sup> |                    |                    |                   |                    |                     |
| Movie Total        | .85 <sup>***</sup> | .88 <sup>***</sup> | .94 <sup>***</sup> | .89 <sup>***</sup> |                    |                   |                    |                     |
| PREDICTION         | .49 <sup>***</sup> | .47 <sup>***</sup> | .59 <sup>***</sup> | .57 <sup>***</sup> | .60 <sup>***</sup> |                   |                    |                     |
| ROLE-PLAYING       |                    |                    |                    |                    |                    |                   |                    |                     |
| Imitation          | .33 <sup>**</sup>  | .52 <sup>***</sup> | .47 <sup>***</sup> | .53 <sup>***</sup> | .52 <sup>***</sup> | .41 <sup>**</sup> |                    |                     |
| Role Reversal      | .29 <sup>*</sup>   | .45 <sup>***</sup> | .44 <sup>***</sup> | .47 <sup>***</sup> | .46 <sup>***</sup> | .28 <sup>*</sup>  | .73 <sup>***</sup> |                     |
| Total              | .35 <sup>**</sup>  | .53 <sup>***</sup> | .49 <sup>***</sup> | .53 <sup>***</sup> | .53                | .35 <sup>*</sup>  | .88 <sup>***</sup> | .81 <sup>***</sup>  |

\*  $p \leq .05$ \*\*  $p \leq .01$ \*\*\*  $p \leq .001$

TABLE 5

Relationships Among Measures of Social Intelligence  
(With Age-Effects Partialled Out)

| Social Sensitivity | Movie 1            | Movie 2            | Movie 3            | Movie 4            | Movie Total        | Predic-<br>tion    | Role-Playing       |                     |  |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--|
|                    |                    |                    |                    |                    |                    |                    | Imitation          | Role Reversal Total |  |
| Movie 2            | .56 <sup>***</sup> |                    |                    |                    |                    |                    |                    |                     |  |
| Movie 3            | .71 <sup>***</sup> | .72 <sup>***</sup> |                    |                    |                    |                    |                    |                     |  |
| Movie 4            | .62 <sup>***</sup> | .64 <sup>***</sup> | .72 <sup>***</sup> |                    |                    |                    |                    |                     |  |
| Movie Total        | .85 <sup>***</sup> | .83 <sup>***</sup> | .92 <sup>***</sup> | .85 <sup>***</sup> |                    |                    |                    |                     |  |
| PREDICTION         | .44 <sup>***</sup> | .40 <sup>**</sup>  | .55 <sup>***</sup> | .52                | .55 <sup>***</sup> |                    |                    |                     |  |
| ROLE-PLAYING       |                    |                    |                    |                    |                    |                    |                    |                     |  |
| Imitation          | .19                | .29 <sup>*</sup>   | .21                | .28 <sup>*</sup>   | .28 <sup>*</sup>   | .32 <sup>***</sup> |                    |                     |  |
| Role Reversal      | .17                | .26 <sup>*</sup>   | .25 <sup>*</sup>   | .27 <sup>*</sup>   | .27 <sup>*</sup>   | .17                | .60 <sup>***</sup> |                     |  |
| Total              | .21                | .33 <sup>*</sup>   | .27 <sup>*</sup>   | .32 <sup>*</sup>   | .32 <sup>*</sup>   | .24 <sup>*</sup>   | .81 <sup>***</sup> | .73 <sup>***</sup>  |  |

It seems that based on high scores on social sensitivity the presence of role-playing and predictive ability is predictable with a fair degree of significance when the effects of age are not partialled out; likewise for the presence of role-playing skills based on the assessment of predictive ability. When the effect of age is partialled out, however, social sensitivity is a less potent predictor of role-playing and predictive skills and the prediction measure is a less significant predictor of role-playing ability. That social sensitivity and predictive ability are pre-requisite or necessary for the development of role-taking skills has not been demonstrated. There has been indicated a sufficiently high degree of relationship between each of the SI measures; thus, high scores on what is predicated to be the basic initial skill of social sensitivity are highly predictive of high scores on what are presumed to be the developmentally additive skills of predictive or role-playing ability.

#### Relationships Between Social and Verbal Intelligence

Table 6 presents the descriptive statistics for the standard scores for the vocabulary subtest of the WISC. These standard scores were divided into a high to low group on the basis of the median score of 12.00.

Tables 7 and 8 present the descriptive statistics for the social intelligence measures for the high and low verbal intelligence scores according to the age and sex of the subjects. In order to assess the effect of intelligence on the social intelligence measures a 2 x 3 x 2 analysis of variance was conducted for each of the five social sensitivity measures, the single predictive ability measure and the three role-taking measures. The three dimensions included in the analysis of var-

TABLE 6

Descriptive Statistics for  
Standard Scores for the  
Vocabulary Subtest of the WISC (N=60)

|                       |       |
|-----------------------|-------|
| Mean                  | 12.17 |
| Standard<br>Deviation | 2.27  |
| Median                | 12.00 |
| Range                 | 6-17  |

TABLE 7

Means and Standard Deviations for Social Sensitivity Measures  
According to Age and Sex for High and Low Intelligence Scores (N=60)

| Social Sensitivity |           | Age 6  |       |       |       | Age 8  |       |       |       | Age 10 |       |       |       |
|--------------------|-----------|--------|-------|-------|-------|--------|-------|-------|-------|--------|-------|-------|-------|
|                    |           | Female |       | Male  |       | Female |       | Male  |       | Female |       | Male  |       |
|                    |           | High   | Low   | High  | Low   | High   | Low   | High  | Low   | High   | Low   | High  | Low   |
| Movie 1            | <u>M</u>  | 6.33   | 6.57  | 6.38  | 8.00  | 9.25   | 6.17  | 9.00  | 6.60  | 13.50  | 9.88  | 7.60  | 7.80  |
|                    | <u>SD</u> | 0.58   | 0.98  | 2.33  | 1.41  | 3.30   | 1.94  | 1.00  | 2.70  | 6.36   | 6.94  | 2.97  | 1.92  |
| Movie 2            | <u>M</u>  | 4.67   | 4.29  | 5.00  | 4.00  | 7.50   | 5.83  | 6.80  | 5.40  | 8.50   | 10.38 | 8.00  | 6.20  |
|                    | <u>SD</u> | 1.53   | 0.95  | 1.31  | 2.83  | 3.32   | 1.72  | 2.68  | 2.79  | 2.12   | 5.34  | 2.92  | 2.59  |
| Movie 3            | <u>M</u>  | 6.00   | 4.71  | 4.50  | 5.00  | 8.25   | 5.83  | 6.40  | 6.20  | 10.5   | 12.13 | 7.00  | 8.40  |
|                    | <u>SD</u> | 2.65   | 0.95  | 0.76  | 1.41  | 4.43   | 1.72  | 1.67  | 3.83  | 0.71   | 7.38  | 2.00  | 1.67  |
| Movie 4            | <u>M</u>  | 5.00   | 5.00  | 5.50  | 4.00  | 7.75   | 7.33  | 7.20  | 5.40  | 8.50   | 10.5  | 8.00  | 8.80  |
|                    | <u>SD</u> | 2.00   | 2.31  | 1.85  | 1.41  | 1.50   | 1.03  | 2.39  | 2.41  | 2.12   | 5.90  | 2.55  | 1.92  |
| Movie Total        | <u>M</u>  | 22.00  | 20.57 | 21.38 | 21.00 | 32.75  | 25.17 | 29.40 | 23.60 | 41.00  | 42.88 | 30.60 | 31.20 |
|                    | <u>SD</u> | 3.61   | 3.41  | 3.16  | 1.41  | 11.84  | 4.79  | 5.73  | 10.97 | 11.31  | 24.23 | 7.80  | 3.56  |

TABLE 8

Means and Standard Deviations for Measures of Predictive Ability and Role-Taking Skills According to Age and Sex for High and Low Intelligence Scores (N=60)

|               |           | Age 6  |        |        |        | Age 8  |        |        |        | Age 10 |        |        |        |
|---------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|               |           | Female |        | Male   |        | Female |        | Male   |        | Female |        | Male   |        |
|               |           | High   | Low    | High   | Low    | High   | Low    | High   | Low    | High   | Low    | High   | Low    |
| PREDICTION    | <u>M</u>  | 17.00  | 9.81   | 11.23  | 11.17  | 14.96  | 11.56  | 13.93  | 10.77  | 13.34  | 15.45  | 13.53  | 13.63  |
|               | <u>SD</u> | 7.21   | 3.49   | 2.74   | 1.89   | 3.01   | 2.50   | 5.13   | 2.90   | 4.72   | 5.75   | 3.73   | 1.39   |
| ROLE-PLAYING  |           |        |        |        |        |        |        |        |        |        |        |        |        |
| Imitation     | <u>M</u>  | 121.67 | 120.00 | 138.13 | 132.50 | 172.50 | 157.92 | 163.00 | 141.00 | 157.50 | 180.94 | 167.00 | 171.00 |
|               | <u>SD</u> | 7.64   | 25.66  | 23.29  | 21.21  | 13.39  | 16.00  | 7.79   | 28.43  | 7.07   | 18.37  | 18.83  | 13.42  |
| Role Reversal | <u>M</u>  | 10.75  | 11.21  | 13.50  | 10.50  | 15.50  | 14.38  | 13.45  | 12.50  | 16.13  | 16.13  | 14.70  | 14.65  |
|               | <u>SD</u> | 0.66   | 2.49   | 2.85   | 1.77   | 2.88   | 1.94   | 1.29   | 1.95   | 1.34   | 1.34   | 2.88   | 2.80   |
| Total         | <u>M</u>  | 22.92  | 23.21  | 25.94  | 23.75  | 30.25  | 30.17  | 27.75  | 26.60  | 30.50  | 34.22  | 31.40  | 31.75  |
|               | <u>SD</u> | 0.38   | 4.68   | 4.73   | 3.89   | 8.44   | 3.04   | 5.82   | 4.55   | 0.71   | 2.89   | 4.65   | 4.13   |

iance were the two levels for sex, the three levels for age and the two levels for verbal intelligence (high and low). Examination of these analyses focuses on the main effect of verbal intelligence and its interaction with age and sex, since the effects of age and sex on social intelligence were considered previously.

The results of the analyses of variance for the social sensitivity measures are presented in Table 9. In each instance the scores for the social sensitivity measures (Movies 1, 2, 3, 4 and Total) were not significantly related to verbal intelligence. Thus, children who scored high on verbal intelligence were not more likely to be socially sensitive than those children who made low verbal intelligence scores.

Table 10 presents the results of the analyses of variance for the predictive and role-taking components of social intelligence. There were no significant relationships between either the predictive measure or the three aspects of the role-taking tests and the measure of verbal intelligence. Thus, as with the social sensitivity measures children who were more verbally intelligent were not more socially intelligent on the predictive and role-taking measures.

In summary, verbal intelligence, therefore, was not related to the three component aspects of social intelligence. Nor was the interactional effect of age, sex, or verbal intelligence significant for any of the nine social intelligence measures.



TABLE 9  
 Analyses of Variance of Age x Sex x IQ  
 For the Social Sensitivity Measures (N=60)

| Source         | df | Movie 1   |          | Movie 2   |          | Movie 3   |          | Movie 4   |          | Movie Total |          |
|----------------|----|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-------------|----------|
|                |    | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u> | <u>F</u> | <u>MS</u>   | <u>F</u> |
| Age            | 2  | 35.05     | 3.01     | 58.28     | 6.94*    | 82.86     | 6.89*    | 67.71     | 7.86*    | 946.45      | 7.77*    |
| Sex            | 1  | 13.58     | 1.17     | 11.28     | 1.34     | 33.46     | 2.78     | 9.13      | 1.06     | 251.18      | 2.06     |
| IQ             | 1  | 16.87     | 1.45     | 6.50      | 0.77     | 0.05      | 0.00     | 0.29      | 0.03     | 54.91       | 0.45     |
| Age x Sex      | 2  | 26.75     | 2.30     | 6.16      | 0.73     | 11.75     | 0.98     | 1.17      | 0.14     | 135.13      | 1.11     |
| Age x IQ       | 2  | 14.64     | 1.26     | 2.52      | 0.30     | 8.45      | 0.70     | 7.51      | 0.87     | 68.26       | 0.56     |
| Sex x IQ       | 1  | 11.81     | 1.02     | 5.51      | 0.66     | 4.85      | 0.40     | 5.67      | 0.66     | 0.83        | 0.01     |
| Age x Sex x IQ | 2  | 2.77      | 0.24     | 4.36      | 0.52     | 1.73      | 0.14     | 0.02      | 0.00     | 2.60        | 0.02     |
| Subjects       | 48 | 11.63     |          | 8.40      |          | 12.03     |          | 8.61      |          | 121.84      |          |

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .001$

TABLE 10

Analyses of Variance of Age x Sex x IQ  
For Measures of Predictive and Role-Taking Ability (N=60)

| Source         | df | Role-Playing |      |           |          |               |          |        |          |
|----------------|----|--------------|------|-----------|----------|---------------|----------|--------|----------|
|                |    | Prediction   |      | Imitation |          | Role Reversal |          | Total  |          |
|                |    | MS           | F    | MS        | F        | MS            | F        | MS     | F        |
| Age            | 2  | 12.24        | 0.79 | 7411.88   | 19.60*** | 54.36         | 10.75*** | 264.70 | 12.77*** |
| Sex            | 1  | 20.91        | 1.34 | 1.51      | 0.00     | 3.96          | 0.78     | 5.65   | 0.27     |
| IQ             | 1  | 45.86        | 2.95 | 91.81     | 0.24     | 3.67          | 0.73     | 0.30   | 0.02     |
| Age x Sex      | 2  | 2.49         | 0.16 | 782.47    | 2.07     | 9.17          | 1.81     | 23.64  | 1.14     |
| Age x IQ       | 2  | 28.37        | 1.82 | 1047.08   | 2.77     | 4.53          | 0.90     | 10.88  | 0.53     |
| Sex x IQ       | 1  | 9.75         | 0.63 | 322.62    | 0.85     | 7.55          | 1.49     | 16.28  | 0.79     |
| Age x Sex x IQ | 2  | 23.08        | 1.48 | 67.29     | 0.18     | 3.39          | 0.67     | 1.38   | 0.07     |
| Subjects       | 48 | 15.56        |      | 378.24    |          | 5.06          |          | 20.74  |          |

\*  $p \leq .05$ \*\*  $p \leq .01$ \*\*\*  $p \leq .001$

Relationships Between Social Intelligence Measures  
and Interpersonal Competence

Table 11 presents the correlations between the nine social intelligence measures and the teachers' rating dimensions. Teachers' ratings of sensitivity to others were significantly related ( $p < .05$ ) to all but one social sensitivity measure (Movie 3) and predictive ability. Gregariousness, leadership, and sense of humor also showed significant degrees of association ( $p < .05$ ) with several aspects of social intelligence, particularly with role-taking. The remaining teachers' ratings of interpersonal competence showed little relationship to any of the social intelligence measures.

In order to assess the effect of the subjects' age and sex on the teachers' ratings of interpersonal competence, analyses of variance for age and sex for each of the teachers' interpersonal competence ratings were carried out. A 2 x 3 analysis of variance was thus conducted for each of the seven teacher rating scales; the two dimensions in the analysis of variance included the two levels for sex and the three levels for age. Results are presented in Table 13 and indicate a significant main effect for age for the measure of sensitivity to others ( $p < .001$ ) and for gregariousness ( $p < .01$ ); thus, 10-year olds were rated as significantly more sensitive to others and more gregarious than were 6-year olds, when the age effect was analyzed via the Newman-Keuls method. There was no age effect for the remaining interpersonal competence measures. There was also no significant difference between the interpersonal competence ratings given to boys or to girls.

TABLE 11

Correlations Between Social Intelligence Measures and  
Teachers' Ratings of Interpersonal Competence (N=60)

| Teacher<br>Ratings            | Social Sensitivity |         |         |         | Movie<br>Total | Predic-<br>tion | Role-Playing |                   | Total |
|-------------------------------|--------------------|---------|---------|---------|----------------|-----------------|--------------|-------------------|-------|
|                               | Movie 1            | Movie 2 | Movie 3 | Movie 4 |                |                 | Imitation    | Role-<br>Reversal |       |
| Leadership                    | -.07               | .20     | .07     | .24     | .16            | .14             | .25          | .29*              | .31*  |
| Cruelty                       | -.07               | -.02    | -.03    | .02     | -.03           | -.02            | -.16         | -.16              | -.21  |
| Gregariousness                | .14                | .24     | .11     | .27*    | .21            | -.00            | .32*         | .27*              | .31*  |
| Sensitivity<br>to Others      | .26*               | .32*    | .25     | .34**   | .32*           | .16             | .37**        | .33**             | .33*  |
| Mood                          | .03                | .14     | -.01    | .10     | .07            | .11             | .23          | .20               | .20   |
| Friendliness-<br>Apprehension | .10                | .19     | .16     | .16     | .14            | .02             | -.19         | .12               | .19   |
| Sense of<br>Humor             | .15                | .24     | .17     | .17     | .16            | .01             | .28*         | .20               | .26*  |

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .001$

TABLE 12

Analyses of Variance of Age and Sex For  
Interpersonal Competence Measures (N=60)

| Source    | df | Mood   |      | Leadership |      | Cruelty |      | Friendliness |      |
|-----------|----|--------|------|------------|------|---------|------|--------------|------|
|           |    | MS     | F    | MS         | F    | MS      | F    | MS           | F    |
| Sex       | 1  | 627.27 | 2.26 | 770.42     | 1.29 | 1.35    | .00  | 481.67       | 1.24 |
| Age       | 2  | 1.02   | .00  | 964.72     | 1.61 | 1353.87 | 2.58 | 428.62       | 1.10 |
| Age x Sex | 2  | 100.42 | .36  | 1034.32    | 1.73 | 513.80  | .98  | 366.22       | .94  |
| Subjects  | 54 | 277.89 |      | 598.74     |      | 525.12  |      | 388.09       |      |

| Source    | df | Sensitivity to Others |         | Gregariousness |        | Sense of Humor |     |
|-----------|----|-----------------------|---------|----------------|--------|----------------|-----|
|           |    | MS                    | F       | MS             | F      | MS             | F   |
| Sex       | 1  | 86.40                 | .23     | 968.02         | 3.12   | 190.82         | .57 |
| Age       | 2  | 2794.62               | 7.46*** | 1833.82        | 5.92** | 316.35         | .95 |
| Age x Sex | 2  | 544.05                | 1.45    | 1090.02        | 3.52   | 39.22          | .12 |
| Subjects  | 54 | 374.61                |         | 309.99         |        | 333.22         |     |

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .001$

## Relationship of Social Intelligence to Ordinal Position and Sex

As indicated in preceding sections there has been no significant difference in performance on any of the measures of social intelligence for boys as compared to girls. As well, teachers tended to rate boys and girls equally on interpersonal competence measures.

The frequency distribution of subjects' ordinal position is presented in Table 13. In attempting to determine the relationship between each of the social intelligence measures and ordinal position (by age and sex of the subject) there was insufficient data to complete the cells of the analysis of variance table. Manipulation of the data by collapsing cells, etc., would have destroyed the essential meaning of the relationship sought between the four dimensions (only, eldest, middle, youngest) of ordinal position and the social intelligence measures. Thus, exploration of the relationship between ordinal position and social intelligence must remain questionable until further research is undertaken wherein subjects might be selected not only on the basis of age and sex but also by ordinal position.

TABLE 13

Distribution of Subjects' Ordinal Position  
For Age and Sex (N=60)

| Age | Only   |      | Eldest |      | Middle |      | Youngest |      |
|-----|--------|------|--------|------|--------|------|----------|------|
|     | Female | Male | Female | Male | Female | Male | Female   | Male |
| 6   | -      | 1    | 1      | 1    | 6      | 6    | 3        | 2    |
| 8   | -      | -    | 1      | -    | -      | 8    | 1        | 3    |
| 10  | 1      | -    | -      | 2    | 2      | 7    | 2        | 2    |

## Discussion

It was postulated that social intelligence is a composite, made up of at least three aspects that are developmentally interrelated: social sensitivity, predictive ability and role-taking. These were defined as follows (Bronfenbrenner, 1955): social sensitivity as "the ability to recognize through direct observation the behavior or psychological states of another person or group"; predictive skill, "the ability to forecast actions or psychological states that are not being directly observed"; and role-taking, "the ability to act or feel in the manner of another person (imitation) or to act or feel in accordance with the expectations of the other person (responsiveness) (p. 97)". This study investigated the hypotheses that the three components of social intelligence develop over age and are developmentally associated, that social intelligence is related to verbal intelligence, that socially intelligent subjects are rated higher on interpersonal competence measures and that there are no clear-cut influences of sex or of ordinal position on social intelligence.

Since all results of a specific nature have been commented upon to some extent at the point of their presentation, this discussion focuses on a brief review of salient findings and issues of a more general nature as well as suggestions for further research.

One of the most outstanding findings of this study was the effect of age on the development of each of the skills hypothesized to constitute social intelligence. It is accepted that growth in abilities occurs with increasing age. Disparate studies (Amen, 1941; Bowers & London, 1965; Dymond, 1951; Gates, 1923; Gilbert, 1972; Hamsher, 1971; Rothenberg, 1971;



Savitsky & Izard, 1970; Walton, 1936) have pointed to the development of separate facets of social intelligence with age. In the present research social intelligence as a composite skill composed of social sensitivity, predictive ability, and role-taking skill, has thus been shown to be an age-dependent ability, with 10-year olds attaining higher scores on components of social intelligence than 8-year olds and 6-year olds respectively.

That the abilities postulated to make up social intelligence are extensively interrelated has been indicated. The developmental sequence of these interrelated skills must, if one does exist, not be assumed from the results of this research. This study thus follows in line with the exploratory investigations of Flavell (1968) and must be characterized as developmental-descriptive and not analytic-causative. The developmental sequence of these three components of social intelligence might be explored via longitudinal studies.

Most curious was the finding that intelligence of a cognitive, verbal type was clearly not important in performance on the measures of social intelligence. This is in contradiction to previous findings by Allport (1937), Feffer and Gourevitch (1960), Gates (1923, 1927), Gilbert (1970), Rothenberg (1971), and Taft (1955) and tends to oppose the notion that children who are more intellectually able tend to have greater ability in other important areas. It must be noted, however, that this study used social intelligence measures of an interactional nature; this is in contrast to that research utilizing paper-and-pencil measures of social intelligence or using situations wherein one focused on only one aspect of an interaction.

The vocabulary subtest of the Wechsler Intelligence Scale for Children utilized in this study is considered to be only one limited criterion of intelligence although it is probably the best single measure of general intellectual level; it correlates with the full-scale WISC score .70. Reservations in interpreting the findings of this study are necessary, however, since calling a child verbally intelligent on the basis of this one subtest would be comparable to calling a child in this study socially intelligent given only good performance on one measure of social sensitivity. Further research might make use of alternative diverse subtests such as the block design subtest of the performance section of the WISC or by the inclusion as well of other tests, such as the Peabody Picture Vocabulary Test, in order to corroborate the results of this study. One might also account for the lack of relationship between the two sorts of intelligence on the basis of the interactional nature of the measures of social intelligence used in the research which, unlike previous research, presented the child with a configuration of stimuli through the use of movies and role-playing. Results were thus less dependent on the child's ability to digest, retain, and respond to verbally-presented information.

In controlling for age in this study, it appeared that, as stated above, verbal intelligence was not important in the development of the social intelligence components within the limits of the subjects tested. It must be noted that most of the subjects tested in this study functioned at the average level; the range of intellectual functioning was thus somewhat limited (between standard scores of 6 and 17). Subjects were selected in this research on the basis of age and sex; further research in this area, utilizing these measures of social intelligence might thus attempt to provide a wider range of intellectual functioning.

There appeared to be a positive relationship between social intelligence measures and several of the interpersonal adjustment scales, especially sensitivity to others and gregariousness. Gregariousness concerns the degree to which the child's interests are directed towards others or to individual activities; a highly gregarious child is one who is "absorbed at all times in a group, or in what others are doing...interested in socially acceptable activities...and shows keen social responsibility and sensibility (Richards & Simons, 1941, p.307)". Similarly, sensitivity to others involves "expression of sympathy in overt, social behavior conducive to the comfort of others...the child is considerate, helpful and thoughtful (Richards & Simons, 1941, p.304)". The degree of similarity between the definitions of these two qualities and the socially intelligent-empathic individual makes the significant relationship between these two variables and components of SI highly likely.

The positive relationship between the social intelligence measures and sensitivity to others and gregariousness is not in keeping with Rothenberg's findings (1971). She found that leadership and friendliness were most strongly related to social sensitivity. The leadership ratings in the present study were significantly correlated with only the role reversal and total scores for role-playing. No significant correlations were obtained for friendliness. These discrepancies might be accounted for on the basis of the different types of measurements used in the assessment of social sensitivity in the two investigations.

The fact that children who attained high scores on social intelligence measures were rated more positively by teachers' rating on interpersonal adjustment still leaves undetermined the question of cause and effect. As posited by Rothenberg (1971), "It is most likely that the

relationship between social sensitivity and interpersonal adjustment is due to continuous interaction during the child's development (p. 21)".

The lack of sex differences for social intelligence measures coincides with the findings of Borke (1970), Gilbert (1968), Hamsher (1971), Rothenberg (1970), and Taft (1955). The contrasting picture of the empathic female with greater social sensitivity may be a fading social phenomenon for the middle-class subjects used in the present study (cf. recent trends in childrearing practices de-emphasize the desirability of sex-role stereotypes).

Because subjects were selected in this research on the basis of sex and age and not according to position in the family, there were insufficient data for analysis of the relationship between the measures of social intelligence and ordinal position. This variable might be explored in further research in the area of social intelligence. As Rothenberg (1968) has stated, "ordinal position should be considered in conjunction with the total number of children in the family as well as the sex and age differences, as they all interact in a complex manner (p. 22)".

In terms of methodology, this research attempted to eliminate limitations imposed via the use of other than real interpersonal situations. The use of sound motion pictures in the assessment of social sensitivity and predictive ability provided a stable stimulus situation and a concrete situation involving all aspects of social expressive behavior wherein the child might react to the total configuration and not isolated stimuli. However, the movie sequence appeared extremely long and tedious both for the child and particularly for the examiner. This was due to the use of four albeit brief, movie clips, plus the necessity of re-running each clip, first to inquire about predicted behavior and second to assess

the child's ability to identify feelings; in addition there was an accompanying series of graded inquiries for each question. The effects of examiner fatigue may have served to reduce what was initially construed to be great enthusiasm on the part of the subjects and may have biased the responses of later subjects.

Similarly in the role-playing measure, an attempt was also made to create an in vivo-type situation wherein the child's efforts at interaction, and not simply his reaction, might be assessed. The use of puppets proved to be both entertaining for the subjects and an apparently valid means of assessing the child's ability to take the role of another. However, use of the structured four line skit might be criticized because of its brevity; thus a shy, withdrawn child might barely become accustomed to the particular nature of the skit before its conclusion. It would seem to be part of the nature of this research to show that inability to adjust to novel stimulus situations is probably detrimental to one's ability to empathize with others. Unfortunately, none of the interpersonal competence measures utilized in this research assessed the dimension of assertiveness-aggressiveness vs. passivity-withdrawal. It may be noted that the correlations between the various measures of social intelligence and the friendliness-apprehension side of the competence ratings were consistently quite low and none was significant. Within these limits, all of the correlations (except for that involving imitative role-taking) were positive—an indication that friendliness may be of minimal value in relating to the examiner and/or performance on the measures. Research might be pursued to determine whether shy children who are initially slow or inhibited in responding to social interactions are as empathic as extraverted, spontaneous subjects. The fact that the Dramatic Acting

Test was administered first to all subjects made it impossible to ascertain whether performance was associated with such factors as the children's responses to the situation.

Although a stimulus situation involving all aspects of social expressive behavior was sought in assessing the child's social intelligence, only his verbal responses were utilized in transcripts of taped responses. Thus, much possibly valuable information via voice tone and expression was not utilized. Indeed it was noted that in scoring the transcripts absence of information about vocal expression created difficulty in assigning appropriate scores. Later research might attempt to score on the basis of verbal recordings.

## SUMMARY

A structure for the investigation of the development of social intelligence in children was provided by Bronfenbrenner, Harding, and Gallwey (1958). They included three components, social sensitivity, predictive skill, and role-taking skill, under their definition of social perception. The present research explored the development of these aspects of social intelligence by providing interpersonal situations wherein the child was required to react to a configuration of stimuli, brief excerpts from movies and puppet skits, and not to isolated elements, such as tape-recorded voices or facial expressions.

Five hypotheses derived from the literature were tested:

(1) Social sensitivity, predictive ability, and role-taking develop over age. (2) Social sensitivity is associated with the development of predictive ability and both are related to the development of role-taking. (3) Social intelligence is related to verbal intelligence. (4) Children who are more socially sensitive and who show more predictive and role-taking ability have greater interpersonal competence as assessed by teacher ratings. (5) There are no clear-cut influences of sex or ordinal position on social intelligence.

The subjects were 60 children, 10 boys and 10 girls at each of three age levels, 6, 8, and 10 years. The subjects were enrolled in regular classrooms at a middle-class, suburban, parochial school.

The results were encouraging. The three measures of social intelligence were found to be age-dependent, with the 6-year olds achieving significantly lower scores than 8-year olds, and the 8-year olds achieving lower scores than the 10-year olds. Significant and

moderately high correlations were obtained between each of the social intelligence measures such that high scores on what was predicated to be the basic initial skill of social sensitivity were predictive of high scores on what was presumed to be the developmentally additive skills of prediction and role-taking ability.

Verbal intelligence failed to show any relationship to the three components of social intelligence. This may have been due to the interpersonal nature of the social intelligence measures utilized in this study, to the relatively restricted range of intellectual functioning of the subjects, or to the method of dichotomizing verbal intelligence scores into high and low groups in analyzing the data. As hypothesized, there was a positive relationship between social intelligence measures and several of the interpersonal adjustment scales, such as sensitivity to others and gregariousness. Finally, performance on the measures of social intelligence was similar for boys and girls and revealed no significant differences. The relationship between ordinal position and performance on social intelligence measures was not determined due to insufficient data.

Consideration of the methods and the results suggested that possible limitations imposed by the use of other than real interpersonal situations appeared to have been minimized by use of the present interactional measures. Since the present research relied solely on the content of children's verbal responses, future investigations might attempt to assess other aspects of children's socially expressive behavior. Further research in this area might also attempt to refine the measures utilized in this study. The anticipated finding that intelligence of a verbal type was clearly not important in performance on the measures of social



intelligence might be further explored via alternative intelligence measures and via subjects with a wider range of intellectual functioning.

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APPENDIX A

ROLE PLAYING TEST AND SCORING SYSTEM

# I. ROLE-PLAYING TEST

## Instructions:

Today we're going to see how good a puppeteer you are. You've seen puppet plays, haven't you, perhaps on T.V. Well, you and I are going to put on a group of very short puppet plays. You're going to make the puppets act just like some person would ... like you've seen puppets do on T.V. The only difference is that you're going to make the puppet act just like the person I tell you. Make him do or say just what the person would. Let's pretend we're putting on a puppet show for T.V., okay? In fact, we're going to record it and perhaps we can listen to it later. Would you like that? There will be six little plays. Now, for each play I will give you a puppet and tell you who the puppet is supposed to be. My puppet will say the first line of the play. Then your puppet will make up a line. And we will keep going. Understand?

## I. Friend

### General Instructions to S:

You can be this puppet and I'll be this puppet. They're good friends. They know each other from school, and they live near each other and sometimes play together.

### General Orientation of E:

Worried, answers factual questions of S, rejects any solution S proposes to problem other than S finding the money.

### Experimenter Script

S responses requiring cues  
modification of lines

E line 1: Gosh, I'm really in trouble.

E line 2: Remember when we were playing ball on the playground? I lost ten dollars and I must have lost it there. I don't know where else it could be.

Response but no help offered,  
go to A.

A Come and help me find it.

Refusal of help ...go to B.

B Why not? What kind of a friend are you?

E line 3: We've looked everywhere around here for fifteen minutes and haven't found it. I don't know what to do.

I. Friend (cont'd.)

E line 4: I'm going to be in trouble if I don't find it.

Role Reversal

Experimenter Script

S responses requiring cues or modification of lines.

Instructions to S:

Now let's do something different. Let's switch puppets. I'll be your puppet and you be mine.

E line 1: We've been looking for that money for an awfully long time. I'm getting tired.

E line 2: What'll happen to you if you don't find it?

E line 3: I'm tired. I'd better be going home.

E line 4: It's my dinner-time and I ought to go.

II. Father

General Instructions to S:

You be this puppet and I'll be this one. You're my father. I'm your son and I'm just coming into the house. You are concerned because you have just gotten a call from my teacher telling you that I don't pay attention in school and I am getting bad marks.

General Orientation of E:

Breezy, somewhat fresh, provocative.

Experimenter Script

S responses requiring cues or modification of lines.

E line 1: Hi Pops! It's real nice outside. Come on out and play with us.

If S agrees, go to A.

A Great. Hey, who were you talking to on the phone?

If S disagrees, go to B.

B How come?

If S goes on to explain, go to C.

C So what?

## II. Father (cont'd.)

E line 2: I don't care.

If S punishes, go to D.

Why? That just isn't fair.

E line 3: But I pay attention.

E line 4: Our teacher just isn't any good. It isn't my fault if I don't get good marks. It's hers. She doesn't like me and is always picking on me.

### Role Reversal:

Let's switch roles again. I'll be the father and you can be the son.

E line 1: How could it be her fault?

E line 2: Oh....I don't understand all your excuses.

E line 3: Why don't you ever say it might be your fault. It's always somebody else. Now it's your teacher.

E line 4: Don't get smart with me, young man.

## III. Teacher

General Instructions to S:

You be this puppet and I'll be this one. You are my teacher. We're in class and my name is Sally. You are teaching an arithmetic lesson.

General Orientation of E:

Persistent, whiney, unpleasant tattletale.

Experimenter Script

S responses requiring cues or modification of lines.

E line 1: Teacher, teacher, Joe just took my pencil.

E line 2: Teacher, Joe pulled my hair and it hurts.

III. Teacher (cont'd.)

E line 3: Teacher, Joe's laughing now. Teacher, he's hiding his face, but he's laughing, teacher, because he's gotten away with it.

E line 4: He's not listening, teacher. He's laughing. He's hiding his face behind his book, but he's laughing, teacher.

Role Reversal:

Now you be Sally and let me play the teacher.

E line 1: What's wrong now, Sally?

E line 2: Well, what can I do for you now, Sally, for the fiftieth time?

E line 3: You certainly are having your troubles, Sally.

E line 4: Sally, you are constantly interrupting me!

IV. Enemy

General Instructions to S:

I'm going to be this puppet over here. I'm just a little guy and I'm a couple of years younger than you. You be that puppet. You're a bully; you're bigger than I am and you don't like me at all.

Experimenter Script

S responses requiring cues or modification of lines.

E line 1: Could I play with you?

If S says "Perhaps", "I don't know" or "No", go to A.

A Oh please. I can play real good. Please?

If continues as above, go to B.

B Oh, come on. Won't you let me play?

If continues, go to C.

C Heck, why won't you let me play?

If "yes", go to D.

IV. Enemy (cont'd.)

D Oh boy. Gee thanks. I'll show you I can play real good.

E line 2: (gesture of missing ball)  
You threw the ball too high.

E line 3: Gosh, I'm tired. You play rough. Could we play something else? Huh?

E line 4: (Use line most appropriate and continue)  
1. Why?  
2. I don't want to go.  
3. Please let me play.  
4. But I like to play with you.

Role Reversal:

Okay, now I'll be the bully. You be this guy.

E line 1: Go away, little kid. I don't want to play with you anymore.

E line 2: I don't like to play with little shrimps. Get lost, pest.

E line 3: You don't even know how to play ball. You're just a little kid.

E line 4: What a brat. Boy could I get rough with you.

V. Mother

General Instructions to S:

You be this lady puppet and I'll be this child puppet. Now, you're my mother. It's during the afternoon and I've been playing with my good friend (Jim or Sally) in the living room.

Experimenter Script

S lines requiring cues or modifications.

E line 1: Gee, Mom, we were just playing and the lamp broke.

E line 2: But it wasn't our fault.  
Honest, Mom.



V. Mother (cont'd.)

E line 3: Heck, we were just throwing the ball to each other and something happened to make it go wrong, and it hit the lamp. It was just an accident.

If S gives punishment, go to A.

A It isn't fair to get punished when it was just an accident.

If S doesn't give punishment, go to B.

B Mom, you're not going to punish us, are you?

E line 4: It never happened when we played here before.

Role Reversal:

Now we'll switch roles again. You can be the boy and I'll be the Mother.

Experimenter Script

S responses requiring cues or modification of lines.

E line 1: That was my favourite lamp!

E line 2: I'm just so upset. I could scream.

E line 3: You're always playing rough. You know I've told you a hundred times not to play ball in the house. Now look what's happened.

E line 4: That's enough. You can't play ball in here again.

VI. Sheriff

General Instructions to S:

Let's do something different. You be this puppet. You're a sheriff in a town far out West, about 100 years ago. And I'll be this puppet. I'm a robber who has just ridden into town with my gang. It's like a cowboy T.V. story.

VI. Sheriff (cont'd.)

General Orientation of E:  
Bold, bragging manner.

E line 1: Hey you. Are you the sheriff  
around here? ....We won't be  
needing you any more. We're  
taking over this town.

E line 2: My men are nearby. You'd better  
surrender and leave town before  
someone gets hurt.

E line 3: You can't stop me, sheriff. My  
men are nearby, like I said.  
You'd just better surrender and  
leave town before someone gets  
hurt.

E line 4: Yeah....this sure will be a nice  
place for my office when you're  
gone.

Role Reversal:

Now you can be the robber and I'll be the sheriff.

E line 1: Now just hold on there, cowpoke.  
What do you think you're doing?

E line 2: But I'm the sheriff in this town.

E line 3: You can't talk to me like that.  
I represent law and order.

E line 4: See, this right here is my badge.

## II. SCORING SYSTEM FOR THE ROLE-PLAYING TEST

### General Characteristics of Scoring Categories.

- I. No response = a score of 1.
- II. No role adoption; behaviour does not respond at all to the expected cultural stereotype. Receives a score of 1.
- III. Response sequence is illogical and/or role adoption is inadequate approximation of stereotype. Receives a score of 2. In Role Reversal, credit with 2 points a simple repetition of what the character said in the initial presentation.
- IV. Moderately logical response sequence and/or moderately good adoption of role. Receives a score of 3.
- V. Satisfactory response sequence and/or good role adoption. Receives a score of 4.

One line equals the unit of response behaviour which the child performs between any two experimenter lines. These are differentiated by numbers and not by letters, which indicate part responses. A line also equals the line subsequent to the final experimenter line in each playlet.

The length of such responses is variable and therefore scores must consequently be assigned on the basis of the scorer's best judgment as to the overall adequacy of the line with respect to the available scoring categories.

One will thus have two scores for each total playlet, a score for the initial presentation (Imitation) and a score for the Role Reversal (RR). These scores are found by:

$$\frac{\text{Sum of scores for all lines in each part}}{\text{Number of lines in the playlet}}$$

Role-Playing Playlet #1: Friend

Part A (Imitation)

Friend stereotype = one who wishes to help.

| <u>Scoring Category</u> | <u>Line</u>                      | <u>Examples</u>                              |
|-------------------------|----------------------------------|--|
| 1                       | 1 and 2 .....<br>all lines ..... | refuses aid<br>simple comment, "Oh, really". |
| 2                       | all lines .....                  | sympathy, "that's too bad".                  |
| 3                       | all lines .....                  | questioning                                  |
| 4                       | all lines .....                  | offers help,<br>solves whole problem.        |

Part RR (Role-Reversal or Responsiveness)

Friend stereotype = one who is in distress

|   |                 |  |
|---|-----------------|--|
| 1 | all lines ..... | no expression of distress<br>simple comments.            |
| 2 | all lines ..... | repetition of part A or<br>simple response to questions. |
| 3 | all lines ..... | request for help.  |
| 4 | all lines ..... | expression of distress, with<br>emotion involved.        |

## Role-Playing Playlet #2: Father

## Part A (Imitation)

Father stereotype = one with authority to demand child's attention to the school problem which is of concern to the father.

| <u>Scoring Category</u> | <u>Line</u>            | <u>Examples</u>   |
|-------------------------|------------------------|---|
| 1                       | 1 .....                | No mention of school, e.g., "Yes, I'll play".<br>Reference to information which implies concern, but no specifics.  |
|                         | all lines .....        | Support of child, e.g., "Don't worry".<br>Previous authoritarian attitude reversed without explanation.   |
| 2                       | 1 .....                | Immediate punishment or scolding (such is illogical in this line because no basis for it has been laid). It thus, shows no incorporation of role and situation.   |
|                         | alternates to 1 .....  | Ignoring question asked.  |
|                         | all lines .....        | Repetition essentially of the previous line (poor sequencing).  |
|                         | 1 and 2 .....          | No reference to teacher and school.   |
| 3                       | 1 and alternates ..... | Explicit questioning with no reference to having previous information. (An important part of the situation has been omitted, a part which an authority figure would be expected to include, but questioning is a logical sequence). |
| 4                       | 1 and alternate .....  | Reference to having information and questioning.  |
|                         | all lines .....        | Explanation of any position taken, for example, punishment or scolding. Support of the teacher.   |

Role-Playing #2: Father (cont'd.)

Part RR (Role Reversal)

Child stereotype = Breezy, provocative, somewhat fresh, showing little responsibility for school problems and projecting blame on the teacher.

| <u>Scoring Category</u> | <u>Line</u>     | <u>Example</u>  |
|-------------------------|-----------------|---|
| 1                       | all lines ..... | Immediate acceptance of responsibility.<br>Apology and promise to remedy situation.   |
| 2                       | all lines ..... | Feeble effort to avoid blame, e.g., for line #2, "I do".<br>Some guilt.   |
| 3                       | all lines ..... | Retorts by questioning.<br>Denial of blame without attempt to explain.  |
| 4                       | all lines ..... | Avoids responsibility in breezy, bold fashion.<br>Deft accusations of teacher's fault.<br>Projection of blame on everyone other than himself. |

Role-Playing #3: Teacher

Part A (Imitation)

Teacher stereotype = one who has the authority to attempt to enforce rules of fair play in this class.

| <u>Scoring Category</u> | <u>Line</u>      | <u>Example</u>   |
|-------------------------|------------------|--|
| 1                       | all lines .....  | Reaction to Sally:<br>(1) unfriendly, e.g., "take it back".<br>(2) friendly, e.g., "here's another", "really", "why".<br>No references to <u>E</u> line, e.g., goes back to lesson.<br>Ignores Sally's comments.   |
| 2                       | 1 .....          | Reaction to Joe, but without any command to return, e.g., "Now, that isn't nice" or "Don't be like that".  |
|                         | 2, 3 and 4 ..... | Essential repetition of previous line only substitutes different situations: "Stop pulling hair", "Stop laughing", after saying "Give back the pencil". The response should logically reflect the fact that bad acts are piling up but no demand to stop.                                    |
| 3                       | all lines .....  | Command, e.g., "Give back the pencil".   |
| 4                       | all lines .....  | Command, with explanation or warning, (disturbing class, "Not nice", "Can have your own if you need it".)<br>Punishment, warning, persuasion, explanations, taking into account that it is the second or third offence.<br>Statement of Sally's responsibility in being a persistent tattle. |

Role-Playing #3: Teacher (cont'd.)

Part RR (Role Reversal)

Child stereotype = Little girl who persistently whines and tattles, an unpleasant child who tries to get Joey in trouble.

| <u>Scoring Category</u> | <u>Line</u>     | <u>Example</u>  |
|-------------------------|-----------------|---|
| 1                       | all lines ..... | Compliant, apologetic, takes blame on self.   |
| 2                       | all lines ..... | Request unrelated to difficulty with Joe.<br>Simple repetition of A lines.                  |
| 3                       | all lines ..... | Request for help.<br>Greater elaboration of A lines.  |
| 4                       | all lines ..... | Demand for assistance, with blame pointing to Joey.<br>Efforts to avoid all responsibility. |



Role-Playing Playlet #4: Enemy

Part A (Imitation)

Personal enemy stereotype = one who will refuse to please or to accede to the wishes of his enemy.

| <u>Scoring Category</u> | <u>Line</u>     | <u>Example</u>  |
|-------------------------|-----------------|---|
| 1                       | all lines ..... | Acting like a friend, e.g., "Yes you can play", "Perhaps you can play", "Here's a lower ball", "We can rest". Simple unattached response.   |
| 2                       | all lines ..... | Simple refusal to allow play, e.g., "No". Refusal with impersonal reason given, e.g., "No, I don't think so", or "You're too little". Minor criticism of, for example, missing the ball, e.g., "You're too little". |
|                         | 3 .....         | Refusal to stop playing.  |
| 3                       | all lines ..... | Hostility shown: rejection, anger, e.g., "Go away", "Get lost". Personal criticism of playing, e.g., "Terrible player".   |
| 4                       | all lines ..... | Purely personal attacks. Rejection on personal basis, e.g., calling other a "brat", "pest", "nuisance", "I don't like you".   |

Part RR (Role-Reversal)

Personal "whimpy", timid-child stereotype = a little kid, somewhat in awe of bully, but persistent and nagging.

|   |                 |   |
|---|-----------------|---|
| 1 | all lines ..... | Tough response, e.g., "Wanna bet" or "I can beat you up". Acquiesces and agrees to leave. Simple response, e.g., "Oh", "So", "Huh". |
|---|-----------------|---|

Role-Playing Playlet #4: Enemy (cont'd.)

Scoring  
Category

Line

Example

2

all lines .....

Repeats lines from A.  
Moderate aggression shown,  
e.g., "I am not", "You are  
a brat".

3

all lines .....

Some defense of self, e.g.,  
"So what if I am little".

4

all lines .....

Timidity or fear shown, but  
persistence dominates.

Role-Playing Playlet #5: Mother

Part A (Imitation)

Mother stereotype = one who is concerned with children's behaviour as a possible cause of lamp-breaking and reference to this behaviour from the point of view of an adult authority rather than that of a sympathetic peer.

Scoring Category

Line

Example

|   |                 |   |
|---|-----------------|---|
| 1 | all lines ..... | Reassures child.<br>Forgives child.<br>Concerned with lamp only.<br>Reversal to forgiveness without any reason.   |
| 2 | 1 .....         | Concern with lamp only (implies minimal adoption of mother-role in the first line, because concern with children's breaking may be implicit. In subsequent lines it must be made explicit).                           |
|   | all lines ..... | Scolds, punishes, forbids, reprimands without explanation, e.g., "Don't play here", "Go to bed". Expressions of anger unelaborated.   |
| 3 | all lines ..... | Questions neutrally.<br>Elaborations of expression of emotion.  |
| 4 | 1 .....         | Questioning which implies knowledge of how it happened and/or irritation with the child.  |
|   | all lines ..... | Any explanation, e.g., "You must be more careful not to break good things", "You're not allowed to play ball here and you disobeyed", "You can't play here again because.....".<br>Thus, punishment plus explanation. |

## Role-Playing Playlet #5: Mother (cont'd.)

## Part RR (Role Reversal)

Child stereotype = Guilty, but trying to avoid punishment and blame, to deflect it onto friend or convince mother of innocence.

| <u>Scoring Category</u> | <u>Line</u>     | <u>Example</u>   |
|-------------------------|-----------------|--|
| 1                       | all lines ..... | Apologizes or accepts blame willingly.   |
| 2                       | all lines ..... | Concern with payment or replacement of lamp.<br>Repetition of A lines, e.g., "It never happened when we played here before".<br>Asks for punishment or censure "Do I have to go to my room"? |
| 3                       | all lines ..... | Responds without committing self; factual explanation.<br>Reacting to fear of punishment with little explanation.  |
|                         | 2 .....         | Concern for Mother, so as to deflect issue from self, e.g., "Mother, you'll just get a headache".  |
| 4                       | all lines ..... | Pleas of innocence backed by explanation.<br>Efforts to involve friend and put blame on him, e.g., "Johnny missed when I threw him a perfect spinner".                                       |

## Role-Playing Playlet #6: Sheriff

### Part A (Imitation)

Sheriff stereotype = Brave man.

| <u>Scoring Category</u> | <u>Line</u>     | <u>Examples</u>  |
|-------------------------|-----------------|--|
| 1                       | all lines ..... | Scared reaction, e.g., "Please don't" or "You win".<br>No response.  |
| 2                       | all lines ..... | Simple denial, e.g., "No, you aren't".   |
| 3                       | all lines ..... | Challenging, e.g., "Just try to". Bragging, e.g., "I'm faster than you are".<br>Questions.<br>Commands and warning with no explanation or strength to enforce. |
| 4                       | 1 .....         | Command to leave.<br>Warning.  |
|                         | all lines ..... | Explanation of sheriff's power.<br>Action.   |

### Part R (Role-Reversal)

Robber stereotype = Bold, bragging, swaggering bandit who "talks a good story".

|   |                 |  |
|---|-----------------|--|
| 1 | all lines ..... | Frightened reaction, e.g., "Don't shoot", "Don't lock me up".  |
| 2 | all lines ..... | Statement of fact, e.g., "Yes, I can", "So what", "Who cares", or simple denial.<br>Repetition, e.g., "I'm taking over this town". |
| 3 | all lines ..... | Challenge, bragging, e.g., "So what. I'm the robber in this town".   |

## Role-Playing Playlet #6: Sheriff (cont'd.)

Scoring  
CategoryLineExamples

4

all lines .....

Swaggering threats.  
Tales of bravado.  
Bold defacing of sheriff,  
e.g., "That thing's only a  
junky piece of tin".  
Action.

**APPENDIX B**

**MEASURES OF SOCIAL SENSITIVITY AND PREDICTIVE ABILITY**

## I. INSTRUCTIONS FOR THE MOVIES

\_\_\_\_\_ (name of child), we are interested in finding out what children see when they watch movies. I have here some movies of different children doing different things. I would like you to tell me how the different people I point out to you are feeling. I would also like to know what you think they might do next. There are no right or wrong answers. I am only interested in finding out what you think the people in the movies are feeling. Some of the movies are harder to figure out than others. Just do your best.

Movie #1: Boys in dorm pick on one boy (46")

### A. Prediction:

1. (Stop after boy says, "Go get it".) What do you think the boy will do next?
2. (Stop after boy says, "I'll show you who's scared".) What do you think the other boys will do now?

### B. Identification of Feelings (Social Sensitivity):

1. (Stop anywhere near the front). How is the first boy feeling?
2. How were the other boys feeling when they said, "Are you scared"?
3. How is the boy feeling as he's banging on the window?
4. How are the other boys feeling now?

Movie #2: Little girl annoying T.V. repairman (1'19")

### A. Prediction:

1. (Stop after maid says, "It's going where your Mother said".) What do you think the little girl does next?
2. What does the black lady do next?
3. What do you think the two men do?
4. (Stop after the white part). What does the man feel like doing?
5. (Stop after the girl says, "May I have the screw-driver, please"?) What does the man do next?
6. What do you think the little girl will do then?



91  
Movie #2: (cont'd.)

B. Identification of Feelings:

1. What is the man feeling when he says, "Will you make her go away, Chuck".
2. How does the little girl feel when she says, "No, no, don't make me go away".
3. (Stop almost at end). How does the little girl feel when she says, "I'm only trying to help".
4. What does the man feel like when he says, "Go away, will ya".

Movie #3: Boy watches hobos on train (1'14")

A. Prediction:

1. (Stop after the whole carload of tramps goes by). What do you think the little boy does next?
2. (Stop at the end). What do you think the little boy will do after this?

B. Identification of Feelings:

1. How does the little boy feel when he hears the train whistle?
2. (Stop after the hobos don't wave). How does the little boy feel now?
3. How does the man who is singing feel?
4. How does the little boy feel at the end?

Movie #4: Girl jumps over the fence (54")

A. Prediction:

1. (Stop after the girl falls the first time). What do you think the girl will do next?
2. (Stop after the girl leaps over the fence). What do you think the girl will do now?

B. Identification of Feelings:

1. How does the girl feel as she comes rushing down the street?
2. How does the girl feel when she sees her sisters laughing?
3. How does the girl feel when she does leap over the fence and walks to the door?
4. How did the girls in the window feel when the snowball landed at the window?

## II. GRADED SERIES OF QUESTIONS

Degrees of prodding when subject fails to respond:

1. Repeat question.
2. "Do you have any idea"?
3. "Go ahead and guess ..... Remember there are no right or wrong answers".
4. "Just try to tell me what you think ....."

III. SCORING SYSTEM FOR PREDICTIVE ABILITY  
(PART A OF MOVIES)

General Instructions:

Give points depending on the degree of reality and creativeness.

2 points: Very plausible that the action can be done next.

1 point: A possible but less likely occurrence; a rather blasé suggestion; a suggestion that is too fantastic to be realistic.

0 points: The repetition of ideas previously stated but reworded; the repetition of an occurrence in the movie; no prediction given, but a simple statement of fact.

## Movie #1: Predictive Ability

Scoring  
CategoryQuestionExample

2

1

- He could take something of other boys.
- He could go tell the person in charge.
- He could close the window when the guy tries to get in.

1

1

- He won't get it.
- He would argue more with the boys.

0

1

- I don't know.
- He'd say "Go get it".
- He'd do something to make the guys laugh and wanna be his friend.

2

2

- They might push him out of the window and into the tree.
- They might shut the window and leave him hanging there.

1

2

- It might hit them all at once and they'd all try to make friends with him.
- They might say, "We'll show you, too".

0

2

- They'll say, "Yeah, go get it".
- They'll say, "Show us who's scared".
- They'll take his pillow and throw it around again.
- They're all standing there.

Movie #2: Predictive Ability

| <u>Scoring Category</u> | <u>Question</u> | <u>Example</u>   |
|-------------------------|-----------------|--|
| 2                       | 1               | <ul style="list-style-type: none"><li>- She could throw a giant tantrum.</li><li>- She might phone her father and mother and find out for sure.</li><li>- She might go to her room and pout.</li></ul>                     |
| 1                       | 1               | <ul style="list-style-type: none"><li>- She might just stop the men from moving it.</li><li>- She'll say "Okay".</li><li>- She might turn the movers into frogs so they couldn't do nothing.</li></ul>                     |
| 0                       | 1               | <ul style="list-style-type: none"><li>- She might say, "But Daddy said".</li><li>- She might look unhappy.</li></ul>   |
| <hr/>                   |                 |  |
| 2                       | 2               | <ul style="list-style-type: none"><li>- She takes the girl by the hand and sends her to her room.</li><li>- She becomes very angry and says she's going to punish her.</li></ul>   |
| 1                       | 2               | <ul style="list-style-type: none"><li>- The black lady speaks to her angrily.</li><li>- She throws her out of the house, throws her some money and tells her, "Don't come back".</li></ul>                                 |
| 0                       | 2               | <ul style="list-style-type: none"><li>- She says, "We'll do it like your Mother wants it".</li><li>- She pushes the dog away from the T.V. set.</li></ul>  |
| <hr/>                   |                 |  |
| 2                       | 3               | <ul style="list-style-type: none"><li>- The men listen to the maid and move the T.V. set just where she said.</li><li>- The men go off in a corner and talk and have a cigarette while the girl and nanny argue.</li></ul> |
| 1                       | 3               | <ul style="list-style-type: none"><li>- The men do it her way.</li><li>- The men start crying 'cause they're confused, and run out real fast.</li></ul>  |

Movie #2: Predictive Ability (cont'd.)

| <u>Scoring Category</u> | <u>Question</u> | <u>Example</u>  |
|-------------------------|-----------------|---|
| 0                       | 3               | <ul style="list-style-type: none"> <li>- They probably say, "Get the dog out of here".</li> <li>- They probably look confused.</li> <li>- They took their hats off.</li> </ul>  |
| <hr/>                   |                 |   |
| 2                       | 4               | <ul style="list-style-type: none"> <li>- He'll scream at her at the top of his voice to clear out fast.</li> <li>- He'll probably add to his bill for the time the little girl made him lose.</li> </ul>                |
| 1                       | 4               | <ul style="list-style-type: none"> <li>- He'll spank the little girl.</li> <li>- He'll be so mad he'll start throwing things and pitch his box of tools right out the window and at the T.V. and everything.</li> </ul> |
| 0                       | 4               | <ul style="list-style-type: none"> <li>- He'll say, "Will you make her stop, Chuck".</li> <li>- He'll get angry with her and frown.</li> <li>- He's putting the T.V. together.</li> </ul>                               |
| 2                       | 5               | <ul style="list-style-type: none"> <li>- He probably tells her that that's not her business and to go outside.</li> <li>- He gets upset and decides to pack up his tools and come back when she's not there.</li> </ul> |
| 1                       | 5               | <ul style="list-style-type: none"> <li>- He tells Chuck.</li> <li>- He starts laughing and he can't stop 'cause he's so mad.</li> </ul>   |
| 0                       | 5               | <ul style="list-style-type: none"> <li>- He says, "May I have the screwdriver", like she did.</li> <li>- He is putting the set together quickly.</li> </ul>   |

---

Movie #2: Predictive Ability (cont'd.)

| <u>Scoring Category</u> | <u>Question</u> | <u>Example</u>   |
|-------------------------|-----------------|--|
| 2                       | 6               | <ul style="list-style-type: none"> <li>- She could start crying and apologize 'cause she just wanted to help.</li> <li>- She might call her parents and tell them never to have that repairman come back again.</li> </ul> |
| 1                       | 6               | <ul style="list-style-type: none"> <li>- She'll just sit and smile at the man.</li> <li>- She might put an evil spell on him so he won't be a good T.V. fixer anymore.</li> </ul>  |
| 0                       | 6               | <ul style="list-style-type: none"> <li>- She'll say, "May I have the screwdriver, pretty please".</li> <li>- She'll put her head through the hole in the T.V. set.</li> <li>- She's not too happy now.</li> </ul>          |

Movie #3: Predictive Ability

Scoring  
Category

Question

Example

2

1

- He turns around real disappointed-like and goes and tells his mother.
- He decides to yell and wave and jump up and down next time to get their attention.

1

1

- He waits for the next train.
- He runs home and asks his mother to phone the station and tell the next conductor he's waiting.

0

1

- The little boy looks sad.
- The little boy has to go home sometime.

---

2

2

- Could be the same as the above examples for question 1.
- The little boy will go home and feel real good and tell everybody.
- He'll decide to hurry down here everyday at this time.

1

2

- He just stands and smiles.
- He starts running after the train, hops on and goes south too.

0

2

- He hangs on to that post.
- He'll look happy when he hears a man singing.



Movie #4: Predictive Ability

Scoring  
Category

Question

Example

2

1

- She'll get very angry with her sisters and get up and brush the snow off and walk in the house.
- She might decide to just turn around and go skating again since they laughed at her.

1

1

- She'll go in the house.
- She'll go in and yell at them and tell them she's going to leave home, 'cause they're so mean.

0

1

- She'll put her skates over her shoulder.
- She's glad it's Christmas time.

2

2

- She'll smile and go in the house and say, "I told you so".
- She'll go in and dare them to do it in just two tries.

1

2

- She'll try it again.
- She'll go and make her sisters promise never to be nasty to her again.

0

2

- Same as for Question #1.

#### IV. SCORING SYSTEM FOR SOCIAL SENSITIVITY MEASURES

##### (IDENTIFICATION OF FEELINGS)

###### General Instructions:

- I. Score of 0: If child when asked how an actor was feeling at a specified moment answered "I don't know".
- If child named a feeling that was an incorrect interpretation.
- If child did not mention the feeling, but rather the reporting of an overt action.
- If interpretation of motives or inferences are correct, but identification of feeling is incorrect.
- II. Score of 1: If child when asked how an actor was feeling at a specified moment named an overt expressive behavior. Inferences of motives need not necessarily be correct; if correct, nothing is added.
- If child named an obvious uncomplicated feeling that had been indicated by the verbal communication or expressive behavior over the overt action. Inferences of motives need not necessarily be correct; if correct, nothing is added.
- If child identified an obvious uncomplicated feeling and interpreted the motive in terms of the factual situation (i.e., without inference of feelings, motives or thoughts), or if the child gave a simple but accurate repetition from the story.
- If the child gave a IIIA or IIIB response but was unable to infer an actor's feelings or motives, etc., or gave a poor quality inferential response.
- III. Score of 2: If child when asked how an actor was feeling at a specific point, imputed a feeling or thought to the actor that could be inferred from the action, but that was not explicitly expressed or named, i.e., a feeling that was not explicit in either the action or the dialogue.
- If child named a combination of two or more simple feelings, which might or might not be compatible, but which were plausible and probable under the circumstances, with added relevant reasons.

III. Score of 2: (cont'd.) If child gave a IIA or IIB quality answer but explained well in terms of inferring the actor's feelings when such a feeling was not explicitly expressed or named.

If child named a complex feeling or combination of complex feelings but was unable to infer an actor's feelings, motives, etc., or gave a poor quality inferential response.

IV. Score of 3: If child named a complex feeling or a combination of complex feelings and/or thoughts and gave an explanation in terms of inferring an actor's feelings when such a feeling was not explicitly expressed or named, or an implication that the behavior of the actors towards each other caused certain of the actor's feelings or an indication of some thoughts the actors might be having in the particular situation.

Movie #1: Social Sensitivity

Question #1

The boy can feel angry, upset, irritated, provoked, teased. "Sad" or "unhappy" are less definitive descriptions, as is "bad".

Reason: The other boys are teasing or mocking him; they took his pillow, tied up his pyjamas and are calling him scared.

Scoring Category

Example

- 0
  - He feels curious why they're doing this.
  - He's running around from boy to boy.
  - He feels glad 'cause the other boys are like teasing him.
  
- 1
  - The boy's frowning.
  - He's feeling bad.
  - He's sad 'cause he doesn't have a happy look on his face or 'cause he's running back and forth after his pillow.
  - The boy is feeling upset 'cause he just looks that way from his face.
  
- 2
  - The boy's feeling angry because those boys are teasing him and he doesn't like to be teased.
  - He feels sad and irritated 'cause the boys are making fun of him.
  - The boy is frowning 'cause the other boys are leaving him out and making him feel all alone and it looks like he must just be new here.
  - The boy was feeling that he was being provoked by the others 'cause he found a knot in his pyjamas.
  
- 3
  - The boy was frustrated because he wanted to make friends with these boys and they're teasing him and making fun of him.

Movie #1: Social Sensitivity

Question #2

The other boys are feeling proud, satisfied, contended, and perhaps a little guilty and anxious.

Reason: They have thrown the other boy's pillow out of the window and appear to be enjoying his distress. They might not appreciate having to have to go and get the pillow if it were necessary that they do so.

Scoring Category

Example

- 0
  - They're feeling sorta sad.
  - They're just standing there.
  - They're mad at the boy 'cause his pillow's landed out the window.
  
- 1
  - They're all laughing.
  - They're glad about it.
  - The boys are feeling good because his pillow landed in the tree.
  - The boys are feeling satisfied because they wanted to do that.
  
- 2
  - The boys are feeling satisfied that they've made the boy uncomfortable.
  - The boys feel...are feeling good because the boy's nervous about getting his pillow and scared maybe 'cause they don't want to get it.
  - The boys are laughing because they've been trying to embarrass that new boy and make him look strange.
  - The boys are feeling rather guilty because pillows shouldn't be in trees.
  
- 3
  - The boys are feeling guilty about having thrown the boy's pillow out and of daring him because they know it's cruel and unkind to treat strangers like that....but they could be scared, as well, of what they've done.

Movie #1: Social Sensitivity

Question #3

The boy might feel frightened, angry, embarrassed.

Reason: The other boys, in making fun of him, have forced him onto the window ledge, shut the window on him and are continuing to mock him through the closed window.

Scoring Category

Example

0

- The boy feels like it's funny too.
- The boy's crouching there.
- The boy feels good and funny 'cause the other kids are still teasing him and mocking him a lot.

1

- The boy is shivering.
- The boy is feeling all alone (or cold).
- The boy is really scared because they shut the window on him.
- The boy is feeling nervous because he is shut out on the window ledge...He's not used to being up so high.

2

- The child was frightened because he's afraid the boys are feeling mean enough to leave him stuck by himself on the ledge all night.
- The boy is scared and cold because the boys are still mocking him and are making him bang on the window while only partially dressed.
- The boy's shivering because he's both cold, 'cause he has no clothes, and he's also frightened about being shut out so high.
- The boy is quite anxious and upset about banging at the window.

3

- The boy's rather anxious and upset and nervous because he knows that those boys will do anything to embarrass him and might just not let him in soon.

Movie #1: Social Sensitivity

Question #4

The other boys are feeling glad, sure of themselves, cocky, perhaps embarrassed, guilty and anxious.

Reason: Because they have succeeded in putting the boy in an extremely awkward situation, have embarrassed him by mocking him into climbing out the window and then shutting it on him.

Scoring Category

Example

- 0
  - The other boys are feeling sad.
  - The boys are tapping on the window.
  - The boys are feeling worried because they know it isn't right to tease the boy that way.
  
- 1
  - The other boys are mocking.
  - The other boys are happy...because they have smiles on their faces.
  - The boys are glad because they asked him if he was scared.
  - The boys are proud (pleased, etc.) because they did it so he's out there.
  
- 2
  - The boys were feeling rather cocky that they fooled the boy into climbing onto that ledge and shutting him out.
  - The boys were happy and sad because they made the boy go out the window and because they know it was unsafe and bad for them to tease him into doing it.
  - The boys were feeling guilty because of what they did but yet looked happy because it was funny to see the boy out there.
  
- 3
  - The boys must have been feeling rather guilty because although they look happy they know that they teased the boy into going out there and if anything happens to him they are responsible.

Movie #2: Social Sensitivity

Question #1

The man is feeling angry, irritated, frustrated, peeved, upset, short-tempered.

Reason: Because the little girl is being a nuisance, pestering the men with petty questions; this man looks to be a rather impatient, easily-angered sort.

Scoring Category

Example

- 0
  - The man is glad the little girl is interested.
  - The man is going to move the T.V. set there.
  - The man is sad because he doesn't like to be bothered while he's working.
  
- 1
  - The man is muttering (frowning, etc.) because she is being a pest.
  - The man is mad because his face doesn't look too happy at the little girl.
  - The man is telling the other guy to get rid of that pesty little girl.
  - The man is feeling very short-tempered because his work has to be stopped sometimes by that girl.
  
- 2
  - The man is feeling irritated because he gets angry easily when somebody like the little girl bugs him.
  - The man is mad and sad; mad because the little girl is being pesty, and sad because he can't stop her and has to ask the other man.
  - The man was feeling awfully frustrated and angry because he asks his partner to make her stop.
  - The man is muttering because when children are nuisances like this little girl his temper gets rather short and he'd like to yell out.
  
- 3
  - The man is feeling short-tempered and frustrated because he wants to do his job and the little girl is pestering him; since he's only hired and could be fired real easily he can't tell her to shut up.



Movie #2: Social Sensitivity

Question #2

The little girl feels anxious that she might have to leave; she feels sorry, penitent, afraid.

Reason: Because she's just being curious and is interested in the T.V. set, and she's made the big people mad with all her questions.

Scoring  
Category

Examples

- |   |   |
|---|---|
| 0 | <ul style="list-style-type: none"> <li>- The little girl feels happy.</li> <li>- The little girl's asking a question.</li> <li>- The little girl feels good because she's bothering the repairman.</li> </ul>   |
| 1 | <ul style="list-style-type: none"> <li>- The little girl's fearing something.</li> <li>- The little girl doesn't want to have to go away 'cause she just wants to help.</li> <li>- The little girl's unhappy because the man yelled at her.</li> </ul>  |
| 2 | <ul style="list-style-type: none"> <li>- The little girl's afraid that she might have to leave because she's been bothering the repairman.</li> <li>- The little girl's unhappy and afraid because she knows that she's been bothering the repairmen and made them mad.</li> <li>- The little girl's fearing something because when she was curious about the T.V. she knows she got the men angry.</li> <li>- The little girl is awfully nervous and anxious about what she's done.</li> </ul> |
| 3 | <ul style="list-style-type: none"> <li>- The little girl is feeling rather anxious because she knows that when she was being curious she asked too many questions and made the men upset.</li> <li>- The little girl feels sorry that she's made the men angry and anxious about their yelling at her because she didn't mean it; she was only being curious.</li> </ul>  |

## Movie #2: Social Sensitivity

## Question #3

The man feels irritated, impatient, angry, pestered.

Reason: He's essentially a rather crabby, impatient man who doesn't appear to like children and has a rather short temper; he, therefore, easily flares up at the little girl.

Scoring  
Category

Example

- |   |   |
|---|---|
| 0 | <ul style="list-style-type: none"> <li>- The man feels worried.</li> <li>- The man hurries to finish the set.</li> <li>- The man feels glad that he's made the little girl feel badly.</li> </ul>   |
| 1 | <ul style="list-style-type: none"> <li>- The man barked back at the little girl 'cause she was bothering him.</li> <li>- The man's feeling bad 'cause he doesn't like pesty kids.</li> <li>- The man feels kinda unhappy 'cause his face looks all tight and funny and he made that strange face.</li> <li>- The man is angry and upset because he said it in an angry way.</li> </ul>                                    |
| 2 | <ul style="list-style-type: none"> <li>- The man feels pestered by the little girl and he wants to really tell her to get out, or spank her 'cause she makes him angry with her nosing around.</li> <li>- The man's feeling sad and mad 'cause she's holding up his work and 'cause he can't stand little kids.</li> <li>- The man feels irritated and angry with the little girl because he doesn't like her.</li> </ul> |
| 3 | <ul style="list-style-type: none"> <li>- The man feels impatient with the little girl and irritated by her because he doesn't appear to be the kind of person who is friendly to kids and he seems to have a short temper.</li> </ul>   |

Movie #2: Social Sensitivity

Question #4

The little girl feels indignant, hurt, upset, disturbed, perturbed.

Reason: Because in trying to be helpful and friendly she didn't realize she was bothering the repairman and making him angry; he's rebuffed her offer of help.

Scoring  
Category

Example

- |   |  |
|---|--|
| 0 | <ul style="list-style-type: none"> <li>- She feels curious about it.</li> <li>- She gave him back the screwdriver.</li> <li>- She feels very glad that she knows the man doesn't want her help.</li> </ul>   |
| 1 | <ul style="list-style-type: none"> <li>- The little girl's unhappy because they don't want her help.</li> <li>- The little girl feels badly because he refused her help. He said, "Go way, will ya".</li> <li>- The little girl feels hurt because she didn't know that he'd be angry.</li> </ul>  |
| 2 | <ul style="list-style-type: none"> <li>- The little girl feels disturbed because she didn't know that in trying to help the man she'd be bugging him a lot and make him mad.</li> <li>- The little girl feels unhappy and mad, because her offer of help was refused and because the man got angry with her without good reason.</li> <li>- The little girl feels rejected because he's mad at her.</li> </ul> |
| 3 | <ul style="list-style-type: none"> <li>- The little girl feels rather hurt and rejected because the man didn't care that he hurt her feelings when he got angry and told her to go away.</li> <li>- The little girl feels indignant that the man should have gotten so upset with her for what seems to be no reason at all.</li> </ul>  |

Movie #3: Social Sensitivity

Question #1

The little boy feels excited, full of anticipation, and eager to see the train.

Reason: He appears to be fond of trains and/or he looks lonely and likes to wave at the people that he sees on the trains, trying to make friends.

Scoring  
Category

Example

- |   |  |
|---|--|
| 0 | <ul style="list-style-type: none"><li>- He feels bad that he has to leave his toys.</li><li>- He runs fast down the road.</li><li>- He feels badly that the train doesn't pass by more often.</li></ul>  |
| 1 | <ul style="list-style-type: none"><li>- The little boy feels good that the train is coming.</li><li>- The little boy is happy because see, his face just lit up.</li><li>- The little boy is excited because he wasn't doing much else.</li></ul>  |
| 2 | <ul style="list-style-type: none"><li>- The little boy was excited because he liked to watch all the trains go by.</li><li>- The little boy feels happy and glad that the train's coming because he enjoys watching the people zoom by and he likes to wave to the people.</li><li>- The little boy is excited about the train coming because now he'll have a chance to meet some new people.</li></ul> |
| 3 | <ul style="list-style-type: none"><li>- It looks like the little boy doesn't have any friends and he must be lonely so when he hears the train whistle he gets all excited and eager to see it because there are always people on it.</li></ul>  |

Movie #3: Social Sensitivity

Question #2

The little boy feels very depressed, rejected, quite unhappy.

Reason: Because he was trying to be friendly, trying to communicate and he was rebuffed when the hobos didn't wave back at him.

Scoring Category

Example

- 0
  - The little boy feels good because he waved at the men.
  - The little boy keeps waving.
  - The little boy is feeling all right that he waved, but he wonders why they didn't wave back.
  
- 1
  - The little boy's frowning because they didn't even let him know they saw him.
  - The little boy felt bad that nobody waved because of the look on his face.
  - The little boy felt sorry because he wanted them to wave back at him and they didn't.
  - The little boy felt very unhappy because he was trying to wave to them so that they'd wave back.
  
- 2
  - The little boy was feeling very unhappy, because he wanted to be friendly and the hobos didn't feel like being friendly back to him.
  - The little boy feels mad because he tried to be nice and they didn't wave back, and sad because he wanted them to be friendly to him too.
  - The little boy is feeling rather rejected (depressed) because they didn't wave.
  
- 3
  - The little boy feels depressed and unhappy because he was trying the only way he could to be friendly and nice and the people ignored him, and pretended he wasn't even there.
  - If he was lonely and feeling bad before it wouldn't help him feel better that they didn't even wave to him.

Movie #3: Social Sensitivity

Question #3

The man who is singing appears to feel contented and glad to be going home (some indication of happy anticipation).

Reason: Because it would appear that he's been long separated from his southern family. He may have been a slave sold away from his kin.

Scoring Category

Example

- 0
  - The man feels bad that he has to ride by himself.
  - The man is singing and waving at the same time.
  - The man feels bad because he has to "go back where he belongs".
  
- 1
  - The man is serenading himself because he's going home.
  - The man is feeling good about going back on the train.
  - The man feels happy because he's singing a glad song.
  
- 2
  - The man is feeling glad that he's going to where he wants to be.
  - The man feels excited about going home and glad that the little boy wants to wave at him, 'cause he's by himself.
  - The man's serenading himself because he is so happy about going home that he wants to share it with everybody.
  
- 3
  - The man is maybe feeling excited about being able to go home because he's been away for so long; he's so glad he just bursts out singing.
  - It looks like the man's all by himself because all the other tramps were on the other car and he might be feeling badly and so singing a song to make himself feel better.

### Movie #3: Social Sensitivity

#### Question #4

At the end of the movie the little boy appears to feel satisfied that somebody has waved at him; he also might regret the fact that the train has gone and he has to return to his solitary play.

Reason: The tramp waved to him and spoke to him. Now the train has gone by and although he feels good about what happened he's sorry that it's all over. He probably has to go back to his solitary play.

#### Scoring Category

#### Example

- |   |   |
|---|---|
| 0 | <ul style="list-style-type: none"> <li>- The little boy still feels bad because only one man waved.</li> <li>- The little boy is just kinda standing there.</li> <li>- The little boy feels happy that he has to go home now.</li> </ul>  |
| 1 | <ul style="list-style-type: none"> <li>- The little boy is grinning because he feels good.</li> <li>- The little boy feels good that the man waved.</li> <li>- The little boy feels sorta sad because he has that funny kinda-unhappy look on his face.</li> <li>- The little boy is sorry, it looks like, but I don't know why.</li> </ul> |
| 2 | <ul style="list-style-type: none"> <li>- The little boy feels happy that the man waved back at him because he knows that somebody wants to be friends with him.</li> <li>- The little boy feels glad that he's found a friend and sad 'cause he's left and the train has gone.</li> </ul>   |
| 3 | <ul style="list-style-type: none"> <li>- The little boy is sorry that the train's left 'cause now the friendly man's gone; and also, he looked like he was kinda lonely before and now he has to go back to being by himself.</li> </ul>  |

Movie #4: Social Sensitivity

Question #1

The little girl feels excited, eager, merry, gay, etc. (Any word expressing a good degree of happiness).

Reason: Because she is eager to get home after skating, to see her family; because it is the Christmas season; because she likes the cold, snowy weather, or because the music with the movie sounds awfully happy.

Scoring  
Category

Example

- |   |   |
|---|---|
| 0 | <ul style="list-style-type: none"> <li>- She feels bad that she has to go in now.</li> <li>- She is falling head-over-heels, running down the street.</li> <li>- She feels not-too-excited but she's going in to see her family now.</li> </ul>   |
| 1 | <ul style="list-style-type: none"> <li>- She's skipping down the street; she's shouting "Merry Christmas" to that man.</li> <li>- She feels good about going home 'cause it's Christmas.</li> </ul>   |
| 2 | <ul style="list-style-type: none"> <li>- The little girl is eager to get home because it's cold outside and she's had a good time skating and wants to get in out of that cold.</li> <li>- The little girl feels good 'cause it's Christmas, and glad 'cause she's going back to a nice warm house.</li> <li>- She feels good because she's filled with the Christmas spirit and because the music shows that she feels great about something.</li> </ul> |
| 3 | <ul style="list-style-type: none"> <li>- The little girl is excited about the arrival of Christmas and being able to share her good feelings with her friends and her family.</li> </ul>  |



Movie #4: Social Sensitivity

Question #2

The little girl feels provoked, upset, determined to show them they ought not to laugh, perhaps embarrassed and angry.

Reason: Because they are mocking, making fun of her, teasing her, or because she was showing off and failed.

Scoring Category

Example

- 0
  - She feels good that they're watching her.
  - She's got a look in her eye.
  - She feels alright because they're teasing her.
  
- 1
  - The little girl's grimacing because she sees them laughing.
  - She feels bad because they're laughing at her.
  - The little girl feels mad because she sees them watching at the window.
  
- 2
  - The little girl is angry because she was having a good time and might have hurt herself but her sisters think it's funny.
  - She feels sad because she didn't get over the fence, and mad because it's unkind of her sisters to laugh at her.
  
- 3
  - The little girl is embarrassed because she fell on her face and is being teased by her sisters. She feels funny because other people saw her make a mistake.
  - The little girl is very angry and perturbed because her sisters shouldn't be laughing at her; they should be worried that she might have hurt herself or something.

Movie #4: Social Sensitivity

Question #3

The girl feels triumphant, proud, cocky.

Reason: Because she proved her point; she's making her sisters "eat their words"; she has no reason to be embarrassed anymore.

Scoring  
Category

Example

- |   |  |
|---|--|
| 0 | <ul style="list-style-type: none"> <li>- She feels bad she couldn't do it before.</li> <li>- She jumped it this time.</li> <li>- She feels bad because she's showed her sisters this time.</li> </ul>  |
| 1 | <ul style="list-style-type: none"> <li>- She's smiling because she made it over the fence this time.</li> <li>- She feels good because now her sisters know she can do it.</li> <li>- She feels awfully happy cause she wanted to jump over it.</li> </ul>   |
| 2 | <ul style="list-style-type: none"> <li>- The girl feels proud that she tried it again and did it this time.</li> <li>- She feels good that she did make it over the fence, but bad because it hurt her when her sisters laughed at her.</li> <li>- She feels good because she's proved to herself that she can do it if she just tried again, like she didn't give up and did it.</li> </ul> |
| 3 | <ul style="list-style-type: none"> <li>- The little girl feels like she's won a victory because she wanted to prove both to herself and to her sisters that when she set her mind to it she could jump that fence.</li> </ul>  |

**APPENDIX C**

**TEACHERS' RATING SCALE OF INTERPERSONAL COMPETENCE**

## I. Dimensions of Teachers' Ratings of Interpersonal Competence

| Trait          | Definition (by Scale Points)   |
|----------------|--|
| Leadership     | <p data-bbox="498 258 1212 316">The leader influences others; his directions or suggestions are accepted.</p> <p data-bbox="498 338 1229 430">9.6 Child is highly successful as a leader; His suggestions and directions are accepted by others.</p> <p data-bbox="498 436 1212 493">7.8 Child usually a recognized leader, but sometimes his suggestions are rejected.</p> <p data-bbox="498 498 1229 590">6.3 Child's attempts are successful with certain children or in certain areas of play, but elsewhere are unsuccessful.</p> <p data-bbox="498 595 1246 653">2.85 Child's efforts at leadership are rarely successful.</p> <p data-bbox="498 658 1177 725">1.5 Child is unsuccessful as a leader. Suggestions ignored or rejected by others.</p>   |
| Gregariousness | <p data-bbox="498 767 1260 919">This trait concerns primarily the degree to which the child's interests are directed towards others, the group, etc., or to individual activities which do not necessarily involve the group.</p> <p data-bbox="498 961 1310 1081">9.55 Child absorbed at all times in group, or in what others are doing. Interested in socially acceptable activities. Keen social responsibility and sensibility.</p> <p data-bbox="498 1087 1229 1178">7.6 Child prefers group play to individual play, but has certain individualistic preferences.</p> <p data-bbox="498 1184 1229 1304">6.05 Responds promptly to reasonable demands of group but is capable of happiness alone. Enters group play if it does not make him the goat.</p> <p data-bbox="498 1309 1212 1401">3.8 Rarely volunteers group association; prefers to be alone. Is not unhappy when routine group play is in the order, however.</p> <p data-bbox="498 1407 1243 1506">1.7 Insensitive to demands of group; individualistic. No responsibility for group. Happier alone.</p> |

Trait

Definition (by Scale Points)

Cruelty

Cruelty implies a tendency for the individual to hurt, harm, torment, disturb, discommodate other living organisms for the purposes of his own satisfaction. The child's behavior in this respect can be expressed in physical contact, verbalization, or in social fashion (such as ignoring or excluding).

- 9.8 Child is ruthless in hurting others. Without being angered or emotionally upset, he will pull hair, push, kick, hit, tease. Enjoys making others suffer.
- 7.2 Child enjoys hurting certain individuals but does not pick on certain others with whom he may be intimate.
- 3.7 Only rarely does child exhibit cruelty toward others.
- 0.5 Child never coldly hurts others.

Kindness (or Sensitivity)

The kind child expresses his sympathy in overt, social behavior conducive to the comfort of others. Considerate, helpful, thoughtful.

- 9.55 Child is kind to others, is helpful, comforting. Acts to make others feel better or be happier.
- 7.7 Kind, except indifferent to a few disliked children.
- 4.2 Indifferent to most children. Usually acts benevolently toward certain friends, comforts and helps them.
- 3.2 Usually indifferent but on rare occasions is helpful.
- 1.5 Child does not help or comfort others. Inconsiderate, indifferent.

Mood (cheerful-depressed)

This trait is characterized at the cheerful end by the child's being merry, happy, good-natured, laughing, pleased, and at the depressed end by his being morose, gloomy, discontent, unhappy, sad. Disregard, on the other hand, the degree to which the child pleases you, and, on the other, the manifest enthusiasm he shows. Consider the degree to which the child probably enjoys himself.

| Trait                     | Definition (by Scale Points)  |
|---------------------------|---|
| Mood (cheerful-depressed) | <p>9.7 Child characteristically cheerful, pleased, good-natured.</p> <p>8.6 Child usually on the cheerful side, but may be depressed by strongly disappointing or frustrating occurrences.</p> <p>4.6 Child's good-naturedness rather easily disturbed by adverse circumstances; more easily made sad when tired or ill.</p> <p>3.8 Child easily becomes depressed in response to slight stimuli; is frequently sad, displeased.</p> <p>2.1 Child usually glum, depressed.</p>  |
| Friendliness              | <p>The friendly child tends to prefer company or to seek out and to react positively to other children or adults. Child's successes in such contact is some criterion of friendship. Friendliness implies an adaptive response on the part of the child to advances of others.</p> <p>9.9 Shows an open friendliness to everyone; quick to make clearly friendly approaches; does more than meet the other child half-way.</p> <p>8.1 Habitually friendly to others, but on some occasions reserved in this respect (such as in the case of strange children or of a child whom he has had a ruckus).</p> <p>5.85 Individualistic, prefers to remain at a distance but not unfriendly.</p> <p>3.9 Habitually unfriendly, but on some occasions makes friendly advances to certain children.</p> <p>2.0 Stands off; is either uninterested in others or suspicious, antagonistic, bashful, sullen.</p> |
| Sense of Humour           | <p>Child sensitive to unusualy, bizarre, baroque; laughs and smiles often. May "kid" others and can be kidded; sees self in ridiculous light.</p> <p>9.7 Child finds many things amusing or funny. Laughs or smiles much. Quick to see ridiculous, bizarre. Kids others successfully, humorously. Takes kidding very well.</p> <p>7.6 No unusual amount of laughter, but quick to sense humorous. Often pokes fun at others.</p> <p>4.0 Never laughs at own expense (can't be kidded), but sees humour in very obvious situations. Inclined to be serious.</p> <p>1.5 Almost never sees anything funny. Cannot be kidded in any way and never pokes fun at others. Dead-pan.</p>  |

## II. QUESTIONNAIRE FOR TEACHERS' RATINGS OF INTERPERSONAL COMPETENCE

### Instructions to Teachers for Making Observations and Ratings

1. Familiarize yourself thoroughly with the scales before making observations so as to focus your attention on the variables to be rated.
2. Concentrate on building up a generalized impression of the child's value on each variable, rather than on recording concrete incidents and details.
3. Probably you should not rate a single child at any one time. Rate in groups if possible, rating all in the group on each variable before passing to the next variable.
4. Compare freely one child with another, as the rating proceeds, revising previous ratings as needed, so that when completed the sheet checks for absolute ratings and for comparative rankings as well.
5. In rating a child with reference to others, disregard age as far as you can. Rate his behavior.
6. Your entry on the rating line is an "X" to be placed directly on the line at the point best representing your judgment of the location of the rates on that scale. This point is termed the "score". It may fall anywhere along the line from one extreme to the other, regardless of whether it falls opposite a cue point or somewhere between or beyond the cues.
7. Treat each scale as a smooth gradation from one extreme to the other. Use the cue points merely as points of reference in building up your concept of the total variable, rather than as discrete items to be checked.
8. Each variable is a complex of loosely correlated elements, and is defined by the descriptions and all the cues on the sheet taken as a whole. Avoid mere reference to the "name" of the variable; the name is merely a convenient handle for reference and may be very misleading if taken by itself to define the variable.

### III. TEACHER RATINGS OF CHILD BEHAVIOR

#### Mood (cheerful-depressed)

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Description: This trait is characterized at cheerful end by the child's being merry, good natured, laughing, pleased, and at the depressed end by his being morose, gloomy, discontent, unhappy, sad. Disregard on the one hand, the degree to which the child pleases you, and on the other, the manifest enthusiasm he shows. Consider the degree to which the child probably enjoys himself.

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- Child characteristically cheerful, pleased, good-natured.
- Child usually on the cheerful side, but may be depressed by strongly disappointing or frustrating occurrence.
- Child's good-naturedness rather easily disturbed by adverse circumstances; more easily made sad when tired or ill.
- Child easily becomes depressed in response to slight stimuli; is frequently sad, displeased.
- Child usually glum, depressed.



Leadership

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Description: The leader influences others; his directions or suggestions are accepted.

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Child is highly successful as a leader. His suggestions and directions are accepted by others.

Child usually a recognized leader, but sometimes his suggestions are rejected.

Child's attempts are successful with certain children or activities, but elsewhere unsuccessful.

Child's effort at leadership are rarely successful.

Child is unsuccessful as a leader. Suggestions ignored or rejected by others.

Cruelty

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Description: This trait implies to a tendency for the individual to hurt, harm, torment, disturb other living organisms for the purposes of his own satisfaction. The child's behavior in this respect can be expressed in physical contact, verbalization, or in social fashion (such as ignoring or excluding).

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Child never coldly hurts others.

Only rarely does child exhibit cruelty toward others.

Child enjoys hurting certain individuals, but does not pick on certain others with whom he may be intimate.

Child is ruthless in hurting others. Without being angered or emotionally upset, he will tease, annoy and enjoy making others suffer.

Friendliness - Social Apprehensiveness

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Description: Friendly child tends to seek out and react positively to other children or adults. Child's success in such contact is some criterion of friendship. Friendliness implies an adaptive response on the part of the child to advances of others. Social apprehensiveness or shyness is characterized by hesitancy, by fearful behavior in response to social situations.

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Shows an open friendliness to everyone; quick to make clearly friendly approaches; does more than meet the other children half way.

Habitually friendly to others, but on some occasions (with new children, etc.) reserved in this respect.

Shy on first contacts with strangers and often prefers to remain at a distance; needs short association to feel at ease.

Child shy, but with a few long familiar acquaintances, is at ease.

Child chronically shy in social situations, afraid of and avoids social contacts with children and adults.

Sensitiveness to Others

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Description: Overall rating on child's "tender" behaviors and sensitiveness to other children's feelings, problems and needs. Three aspects of the child's apparent thoughtfulness with his peers are relevant: 1) awareness of other children's feelings, needs, problems, etc. 2) extent of his concern about them; and 3) the behavior manifestation of his awareness and concern.

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(a) (See next page)

(b)

(c)

(d)

(e)

(f)

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### Sensitiveness to Others

- (a) Child goes out of way to preserve and/or restore happiness and well-being of other children; unusual awareness and concern for children's feelings, needs and problems, tends to assume responsibility for making things O.K.
- (b) Child interested in preserving and/or restoring happiness and well-being of other children; aware and concerned for their feelings, needs, and problems, but does not assume responsibility for making things O.K., usually tries to assist but if not immediately successful will leave the problems to someone else.
- (c) Child is slightly above average in awareness of and interest in others' feelings, needs and problems but may ignore such with people he dislikes or when otherwise engrossed.
- (d) Child slightly below average in awareness of and interest in others' feelings, needs and problems; will respond to a strong "call" for help or sympathy, but will not go out of his way.
- (e) Child is quite indifferent to other children's happiness and well-being; seems aware of their needs, problems, and feelings but just does not care.
- (f) Child is completely unaware of and unconcerned about other children's happiness and well-being, does not seem to realize that other children have needs and feelings and therefore ignores these completely.

Gregariousness

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Description: This trait concerns primarily the degree to which the child's interests are directed toward others, the group, etc. or to individual activities which do not necessarily involve the group.

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— Child absorbed at all times in group or in what others are doing. Interested in socially acceptable activities.

— Child prefers group activity to individual activity, but has certain individualistic preferences.

— Responds promptly to reasonable demands of group but is capable of happiness alone. Enters group activity if it doesn't make him the goat.

— Rarely volunteers group association; prefers to be alone. Not unhappy, though, during routine group activity.

— Insensitive to demands of and responsibility for group; individualistic. Happier alone.

Sense of Humor

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Description: Child sensitive to unusual, bizarre, baroque; laughs and smiles often. May "kid" others and can be "kidded"; sees self in ridiculous light.

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Child finds many things amusing or funny. Laughs or smiles much. Kids others successfully, humorously.

Not unusual amount of laughter, but quick to sense humorous. Often pokes fun at others.

Never laughs at own expense (can't be kidded), but sees humor in very obvious situations, inclined to be serious.

Almost never sees anything funny. Can't be kidded in any way, and never pokes fun at others. Dead-pan.

APPROVAL SHEET

The thesis submitted by Barbara J. Dydyk has been read and approved by the director of the thesis. Furthermore, the final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

January 15, 1973  
Date

Jeanne M. Foley  
Signature of Adviser