

ACKNOWLEDGEMENTS

I wish to express my appreciation to Dr. Alex E. Schwartzman for his help and guidance throughout this study. This appreciation is extended to Dr. David Andres for his helpful comments regarding the statistical analysis of data. I also want to thank Drs. Anna-Beth Doyle and Jane E. Ledingham for their suggestions. I want to especially thank Claude Serneville, Denise Morin, and Jean Toupain for their contributions in the data collection. Finally, I am most indebted to the subjects and their families for their assistance and cooperation in making this study possible.

TABLE OF CONTENTS

LIST OF TABLES	1
INTRODUCTION	1
Types of role-taking skills	1
The relationship between maladaptive social behavior and role-taking skills	11
The influence of age in the determination of role-taking skills	14
Social behavior assessment procedures	15
METHOD	19
Subjects	19
Measures	20
Procedure	23
RESULTS	24
DISCUSSION	30
REFERENCE NOTES	35
REFERENCES	37
APPENDICES	
A Designs Use in the Administration of the Glucksberg and Krauss Referential Com- munication Task	41
B Issues of Interpersonal Awareness Scale Related to Conceptions of Close Friend- ships and Peer Group Organization	42
C Friendship and Peer Group Dilemmas Use in the Interpersonal Awareness Scale	43
D Questions Used in the Friendship and Peer Group Dilemmas in the Interpersonal Awareness Scale	46

List of Tables

1	Multivariate Analysis of Covariance for Group and Sex Effects on the Glucksberg and Krauss Referential Communication Task and Selman Interpersonal Awareness Scale	25
2	Group Means and Standard Deviations on the Glucksberg and Krauss Referential Com- munication Task, Selman Interpersonal Awareness Scale, and WISC Vocabulary Subtest	26
3	Analyses of Covariance for Group and Sex Effects Variables on the Glucksberg and Krauss Referential Communication Task and Selman Interpersonal Awareness Scale	27
4	The Stepwise Variable Selection Functions on the Basis of the Glucksberg and Krauss Referential Communication Task and Selman Interpersonal Awareness Scale	29

INTRODUCTION

Role-taking may be defined as the awareness of others' feelings, thoughts, and perceptions. It has long been considered the central feature of socialization (Baldwin, 1906; Mead, 1934). Role-taking ability has been described as a prerequisite of certain prosocial behaviors, such as cooperation (Hartup, 1970), while maladaptive behaviors such as aggression are thought to reflect a lack of ability to assume the role of others (Feshbach & Feshbach, 1969). According to Piaget (1928), children's role-taking skills are developed mostly through peer interactions, where children are forced to reexamine their perceptions when confronted with those of others. Despite the interest in the effect of role-taking development on the socialization of children, previous studies have generally provided inconsistent support for the postulated relation between role-taking ability and social behavior.

It is argued in the present study that the inconsistent results may be attributed to inconsistent control by researchers of the age of children who served as research subjects and the type of role-taking skills, social behaviors, and social behavior assessment procedure used. Each of these factors will be addressed in the following four sections.

Types of role-taking skills

There are four types of role-taking skills: perceptual, cognitive, affective and social. Perceptual role-taking refers to the ability to make inferences about another person's visual perspective of objects.

It was originally assessed by Piaget's "three mountains task" in which a child is shown an array of papier mache mountains and is asked how the array looks to a doll seated in another location by choosing a photograph that represents the scene from the doll's perspective (Piaget & Inhelder, 1956). Since children between four and seven years of age persistently chose the picture depicting their own perspective even when asked to check from the doll's position, Piaget concluded that they were primarily egocentric. In the early seventies authors challenged this contention, arguing that younger children (e.g. preschoolers) were capable of extricating themselves from their own point of view, provided that the array was covered when the choice of photographs was made (Brodzinsky, Jackson & Overton, 1972), the number of pictures and items in the array was smaller than that used by Piaget (Fishbein, Lewis & Keiffer, 1972), and the array included familiar items placed on a revolving tray instead of using mountains and photographs (Kurdek & Rodgon, 1975). This latter task requires the child to indicate the visual perspective of the experimenter. The material consists of two identical revolving trays with three Walt Disney characters (e.g. Mickey Mouse, Goofy, and Donald Duck) glued in a similar position on the tray. One tray is placed in front of the subject, the other in front of the experimenter, two feet distant from the first. The subject is shown how to make the tray revolve and told the two trays are similar. The experimenter then places his tray so that the Mickey Mouse faces the experimenter and places the subject's tray in a similar or different position. The subject is then asked to "turn your tray so that you can see Mickey Mouse, Goofy, and Donald Duck just the way I am seeing

them now." The scoring is based on whether the subject's positioning of the tray is identical to that of the experimenter.

According to Shantz (1975), perceptual role-taking is the least social of the various types of inference. The role-taker has only to consider the other person's spatial location in order to make a correct response. Therefore, it is not surprising that with one exception, studies report no significant association between perceptual role-taking and social behavior. Strayer and Christophe (Note 1), for example, found no relation between perceptual role-taking as measured by a task developed by Flavell, Botkin, Fry, Wright and Jarvis (1968) and observer-rated empathic behavioral interactions (e.g. comforting, helping, and reinforcing comments) in preschoolers. Murray and Ahammer (Note 2) also failed to find a significant relationship between performance scores on a perceptual task similar to Piaget's "three mountain" task and preschoolers' willingness to assist others (e.g. sharing, cooperation and helping). Wright (Note 3) attempted to assess the relationship between perceptual role-taking and social competence, defined as the amount of interaction with peers and effectiveness in influencing peer behavior. The three perceptual role-taking tasks used for the preschooler subjects, however, were found to yield both floor and ceiling effects. Since these tests failed to differentiate the subjects, they were discarded from the correlational analysis. Waxler, Yarrow and Smith (1977) found no significant correlation between the pro-social behavior (e.g. helping, sharing, and comforting) of children three to seven years of age and their performance on four perceptual role-taking tasks. On the other hand, Buckley, Siegel and Wess (1978)

were the only authors to report an association between perceptual role-taking abilities and social behavior. They found that children between three and nine years of age who exhibited helping and sharing behaviors had higher scores on a perceptual measure similar to Kurdek and Rodgon's (1975) task than did children who did not display altruistic behavior. There are, however, no apparent reasons why these authors obtained results contradictory to those of other investigators.

Cognitive role-taking refers to the ability to discern another person's thoughts or understanding of an event or situation. The Glucksberg and Krauss (1967) Referential Communication Task, which is intended to measure this ability, requires the child to communicate descriptive information about six low encodable graphic figures. The experimenter and the subject sit on opposite sides of the screen so that they cannot see each other. Both have the same set of figures. The subject has to declare, in a given order, which figures he selects from the total set clearly enough to permit the listener to find these figures among his own set, and to reproduce the same order of figures. The scoring of the child's performance is based on the number of objects placed in correct order by the listener.

Wright (Note 3) argues that there is a relationship between cognitive role-taking ability and prosocial behavior. She found that social competence was related to cognitive role-taking skills as measured by Flavell's (1970) gifts selection tests. Rubin and Scheinder (1973) also reported that altruistic seven-year olds achieved higher scores than less altruistic children on the referential communication task (Glucksberg & Krauss, 1967). Waxler et al. (1977), however, failed to

find a relationship between prosocial behavior and six cognitive role-taking tasks.

Iannotti (1978) performed a training study in which 6- and 9-year old boys were assigned to either a training or control group. The training procedure, which consisted of having the children assume the perspective of one or more different characters in a story, led to increased altruistic behaviors only in 6-year-olds. Moreover, in a one year follow-up, Iannotti (Note 4) found that the change in the 6-year-olds' behavior was temporary. Wentink, Smits-van Sonsbeek, Leckie, and Smits (Note 5) trained 3- to 9- year olds to (a) recognize, make explicit, interpret and predict reactions and personal attributes, (b) role play, (c) understand the concept of another's perspective, and (d) generate strategies for implementing these skills during play. Compared to a control condition, the training had no significant effect on helping and giving behaviors of children, despite the fact that cognitive role-taking test performance on the Glucksberg and Krauss (1967) task improved significantly in almost all age groups.

To summarize, when researchers examined the relation between cognitive role-taking ability and prosocial behavior the results were inconsistent. Moreover, where training of cognitive role-taking skills was involved, improvement in these skills was not followed by lasting improvement in social behavior.

Affective role-taking concerns the awareness of what another person feels and why he feels that way. In addition it also includes the awareness of whether this feeling is also experienced by the role-taker. Borke (1971) developed a measure which has the child identify what

another child feels. The child is shown four drawings of faces representing four emotions (e.g. happiness, sadness, fear, and aggression). Before starting, the experimenter establishes that the child recognizes the emotion depicted by each face. The child is then told stories in which another youngster might easily be perceived as feeling happy, sad, afraid, and angry (e.g. losing a toy). Following each story, a picture of a blank face is presented to the subject who must select, from among the four drawings, the one that best shows how the child in the story felt. The scoring is based on whether the faces chosen depict the emotion "appropriate" to each situation.

Feshback and Roe's (1968) task is another widely used affective role-taking measure. It consists of watching a series of slides in which a child is in one of the same four affective situations depicted in Borke's measure. After this exposure, the subject is asked, "How do you feel?" The scoring is based on the matching of the subject's response to the emotion the child in the slide is supposedly feeling. Urberg and Docherty (1976) developed a measure in which the experimenter presents cards with stories about the subject and a friend. Each story depicts one of the four emotions described above. Unlike the previously mentioned procedures, the experimenter asks what the subject and his friend feel as well as why. The scoring is based on the subject's recognition and explanation of the appropriate emotion felt by the characters.

A number of studies referred to earlier also examined the relationship between affective role-taking and prosocial behavior. Using Urberg and Docherty's measure, Strayer and Christophe (Note 1) found affective

role-taking skill to correlate with empathic behavior in preschoolers. Buckley et al. (1978) found a similar positive relationship between performance on Borke's (1971) test and the extent of helping and sharing behaviors exhibited by their subjects. Wright (Note 3) found that the social competence of preschoolers in a peer group situation was associated with their affective role-taking skills, as measured by Urberg and Docherty's task. With the exception of the 3-year olds, children exposed to the training procedures of Wentink et al. (Note 5) did not improve their scores on the affective role-taking tests of Feshbach and Roe (1968) and of Borke (1971). This inconsistency might be attributable to the age-related ceiling effects of these measures which were reported by Wright (Note 3). Rubin (1976a) found that behaviors such as sharing, helping and talking to others were related to affective role-taking abilities in preschoolers as measured by Borke's task. Murray and Ahammer (Note 2), who also used Borke's measure found that preschoolers who obtained high scores on this task also exhibited more helping, cooperative, and sharing skills in games than children who obtained lower scores. Levine and Hoffman (1975) were the only researchers who failed to find a relation between preschoolers' affective role-taking as measured by Feshbach and Roe's task and cooperative behaviors as measured in competitive game situations. In general, however, the findings suggest that affective role-taking skills are associated with prosocial behaviors for children of preschool age.

While most of the above-mentioned studies demonstrate a relationship between social cognition and social behavior, they are limited by the affective role-taking measures and the experimental design used.

Borke's measure, for example, does not seem to take into consideration the understanding intrinsic to role-taking. This understanding involves more than knowing the meaning of certain facial expressions or behavioral manifestations. The understanding of the complexity of feelings, values and purposes germane to human relations can hardly be thought to be measured by photos and a brief third-person descriptive story. Borke's task, according to Chandler and Greenspan (1972) does not require children to take a perspective which differs from their own. The problem with Feshbach and Roe's assessment procedure is that one assumes that a child must feel the same way as another in order to conclude he is empathizing. It is overly simplistic to make such an assumption because a child who empathizes with a happy person does not necessarily feel happy himself. Urberg and Docherty's task addresses itself to these considerations. It goes beyond the simple recognition of others' affect based on obvious cues and the subject's own feelings. Unfortunately, it has been administered only to children younger than eleven years of age. Because most of the research has been centered on demonstrating that children develop role-taking skills prior to the age estimated by Piaget, no affective role-taking assessment procedures are as yet available for children beyond this age range.

The experimental design of the studies using affective role-taking measures limit the conclusion that might be drawn from them. No attempt was made in any of these studies to control for intelligence, as measured by various psychometric methods. Although children's role-taking skills are not a direct reflection of their intelligence, there is still a moderate relation between the two (Shantz, 1975). It would

therefore appear warranted to control for intelligence of children when an association between role-taking abilities and social behavior is investigated.

The final type of role-taking to be examined is social, defined as the awareness of what others think or feel in the context of social interactions. The Selman Interpersonal Awareness Scale (Selman, 1976) is the only instrument available which is designed as a measure of social role-taking. It consists of an interview procedure which assesses the child's level of understanding of interpersonal concepts as he tries to resolve commonplace interpersonal dilemmas. There are three dilemmas presented in story fashion, each of which is aimed at eliciting the subject's thoughts about person, peer group, or dyadic peer relations. The procedure for assessing social role-taking draws on specific real life social situations to elicit a progressive series of interpersonal concepts. These, according to Selman (1976) reflect a maturational sequence of five invariant stages in social role-taking development from early childhood to adulthood. Each stage of reasoning is seen as being achieved through a reorganization of ideas derived from the previous stage which are then more adequate and inclusive.

Unlike other role-taking measures, the Selman scale does not focus on the content but rather on the structure of the child's understanding of the nature of persons and the relation between their various perspectives. The child's reasoning on specific interpersonal issues (e.g. leadership) in the Selman scale provides the social content only as a means by which his level of social awareness may be evaluated.

In contrast to other role-taking measures, a systematic effort was

made by Selman, Jaquette and Lavin (1977) to provide reliability and validity in the evaluation of their scale. Inter-rater reliabilities varied between .87 (N=15) and .97 (N=15) depending on the type of training the raters received (e.g. workshop or reading the manual only) and the domain rated (e.g. person, friendship, or group organization). Alternate forms of administration (e.g. using different dilemmas) of the scale were shown to provide stable levels of role-taking awareness ($r=.88$, N=9). Test-retest reliabilities at two and five month intervals varied between .61 and .97 (N=60). These results, however, were obtained from elementary grade children who primarily exhibited early role-taking reasoning. Using a wider age range the measure's global score correlated .76 (N=225) with chronological age and .52 (N=48) with IQ. Partialing out IQ, however, had little effect, probably because IQ is designed to remain constant with age while social role-taking is not. First order correlations among the role-taking reasoning levels across domains at different ages were high at most age levels with the exception of eight-year olds. The hypothesis of an invariant and hierarchical sequence of the scale was supported by the fact that on retest two years later, 40 subjects (between 6 and 12 years of age) advanced in their role-taking development, only eight remained in the same global stage, and none regressed. Using a clinical comparative sample including 21 boys (within the same age range) having poor interpersonal relationships (e.g. had no friends, played only with younger children, etc.) it was found that eight did not show maturational improvement while the rest did over the two year follow-up. At both Time 1 and Time 2, the disturbed sample performed at a lower level than the "normal" group in

terms of either the total score or each of the subscale scores.

Selman's scale is more difficult and time consuming to administer and score than other role-taking assessment procedures. It also appears to make more demands on the subject's verbal abilities. The verbal communication required, however, permits access to the subject's level of social cognition and to his role-taking conceptions in a multitude of interpersonal situations. The other methods described earlier appear superficial and simplistic by comparison.

In summary, of the four types of role-taking skills, perceptual role-taking was generally found to be unrelated to social behavior. The relation between cognitive role-taking and social behavior received inconsistent support. An association between affective role-taking and interpersonal behavior was found but the research thus far has been limited to preschoolers and is characterized by questionable research designs and measures. Finally, although there is evidence of a relation between social behavior and Selman's social role-taking measure, this evidence is thus far confined to Selman's validation studies. Selman's measure, however, offers the possibility of investigating the relation in question in a wider range of situations, ages, and domains (e.g. alone or in groups) than other role-taking measures.

The relationship between maladaptive social behavior and role-taking skills

The studies reviewed thus far examined role-taking skills as a prerequisite of prosocial behavior. In this section studies are described which examine role-taking abilities in children who engage in maladaptive social behavior. The authors of these studies postulate that in the process of their development such children experience delays in the

acquisition of role-taking skills. As a result of their inability to interpret the actions and intentions of others, children whose role-taking development is immature run into difficulties with their peers by responding inappropriately in social situations.

In support of the hypothesis that maladjusted children experience a deficit in role-taking awareness, Chandler (1973) found that delinquents, 11 to 13 years of age, had more difficulty adopting the perspective of others on cognitive role-taking tasks than nondelinquents of similar age even when IQ was controlled. In a subsequent study, Chandler, Greenspan and Barenboim (1974) found that children 8 to 15 years of age experiencing chronic adjustment problems at home and at school obtained lower scores on cognitive role-taking tasks than better adjusted peers of comparable age.

In an extension of their studies, Chandler and his colleagues provided role-taking training for these children exhibiting delinquent behavior. The training consisted of having these children make video films of real-life situations which children of their age encounter daily and in which they had to successively assume the role of each character. Chandler et al. (1974) also included referential communication training which emphasized effective communication of non-egocentric messages. Chandler (1973) reported that the incidence of delinquent offences had diminished as long as 18 months after the delinquent subjects had terminated their training compared to that of an attention-placebo group. The trained subjects, however, may have persisted in committing antisocial acts which escaped police attention. Chandler et al. (1974) found no statistically significant improvement in social

adjustment as rated by institutional staff in either the trained or attention-placebo groups. In contrast to Chandler's (1973) findings, Iannotti (1978) did not find that his training procedure had any short term effect on the aggressive behaviors of six- and nine-year-old boys.

The above studies suggest that while role-taking training may not be particularly effective, there is an inverse relation between cognitive role-taking skills and aggressive behaviors. Kurdek (1978), however, found that 7- to 10-year-olds considered aggressive by their teachers were also among the good role-takers of their class. This appears consistent with Piaget's claim (1928) that the decline of egocentric reasoning is brought about by social interaction with peers. It is through interchanges, conflicts and arguments that a child finds himself forced to reexamine his own perception in the light of others and he therefore becomes less egocentric. According to Kurdek (1978), aggressive children may be good role-takers because of their high level of interaction with peers.

There are reports suggesting that less group-oriented and more socially withdrawn children are, in general, poor role-takers. Rubin (1976b) found that preschoolers who used the most egocentric speech had the lowest incidence of peer interactions. In another investigation, Rubin (1976a) found that the lowest scores on the Glucksberg and Krauss' (1967) role-taking task were obtained by the preschoolers who "played beside other children but who did not engage them in conversation or did not actively share toys and materials" (p. 825). These children, despite the fact that they sometimes played group games with other children, behaved as if they were alone. Holos and Cowan (1973) found

that seven- and nine-year-olds, living in remote Norwegian farm communities where there are low levels of social-verbal interaction, achieved lower role-taking scores than village or town children. These data suggest that a certain amount of social interaction is necessary to develop role-taking skills. It appears that withdrawn children may experience a certain deficit or lag in role-taking development.

It should be pointed out, however, that aggression and withdrawal are not necessarily incompatible behavioral dimensions. Children may exhibit both types of behaviors. Piagetian theory does not predict level of role-taking abilities in such children as compared to those who exhibit either aggressive or withdrawn behavior. It, nevertheless, appears important to distinguish them from these other groups, since they are at risk for major disorders in adulthood (Robins, 1972) and they may be relatively impervious to the influence of peer interaction.

In summary, it would appear that the frequency of peer interaction helps develop role-taking abilities. Investigators examining the relation between role-taking abilities and maladaptive social behavior, however, have not considered withdrawn behavior. They have focused on aggressive behavior which involves frequent interactions with peers.

The influence of age in the determination of role-taking skills

Another factor which may explain why some studies failed to find a relation between social behavior and role-taking abilities is that the children tested were too young. It might be argued that in order to find a relation between role-taking and social behavior a minimum level of role-taking abilities is required, such as stage 2 in the Selman role-taking developmental model (Selman, 1976) which occurs in the

preadolescent period, according to this theory.

By the time the child reaches stage 2, he is aware that others think or feel differently than he does, because they have their own set of values. Likewise, he recognizes that others can adopt his own point of view.

Support for stage 2 as a minimum level for mediation of social behavior comes from Iannotti (1978) who failed to find that role-taking abilities were related to altruistic behavior. In a subsequent paper (Iannotti, Note 6), however, he discovered that if Selman's stage 2 was used as a minimum criterion of role-taking development, the relation reached significance. For instance, the boys who achieved stage 2 and succeeded on the majority of the situations on the empathy measure shared more than those who fulfilled only one of these criteria. From this finding, it could be hypothesized that using young children minimized the possibility of finding a relation between social cognition and social behavior. According to Selman's developmental model the range of role-taking skills available is greater at later stages of social awareness and therefore the likelihood of finding individual differences is increased. Selman's measure permits the investigation of children's role-taking skills beyond the ages studied to date.

Social behavior assessment procedures.

Most of the social behavior measures used in this research area are designed with an absent other or are adult derived. Examples of the former are those used by Rubin and Schneider (1973) and Iannotti (1978) who measured altruistic behavior by counting the number of candies a child gives to an absent needy child. One might wonder if this type of

assessment minimizes the likelihood that children will show prosocial behavior as compared to other methods where the other is present. Waxler et al.'s (1977) study used an adult derived measure. In this case prosocial behavior was measured by seeing whether the subject would share his snack with a confederate or by seeing whether he would help this confederate to pick up material that was "accidentally" spilled on the floor. Children may assume that adults are competent and self-sufficient and thus not be as likely to help or share with an adult as they would with another child. It has been shown that children's interactions with peers differ markedly from their interactions with adults (Hartup, Note 7). It is possible that, because of their different perspectives, children have a more accurate idea of how children behave socially. In fact, Rolf (1972) has found that peers succeed better than teachers in identifying children vulnerable to behavior pathology. A peer nomination assessment may, therefore, be a more appropriate means by which to evaluate the social behavior of children than adult derived measures.

The Pupil Evaluation Inventory (Pekarik, Prinz, Liebert, Weintraub & Neale, 1976), a peer nomination instrument, was used in the present study as a criterion measure of children's social behavior. Factor analysis has indicated that this instrument yields three stable, homogenous, orthogonal factors: aggression (consisting of items describing disruptive, argumentative, and quarrelling behaviors), withdrawal (consisting of items describing shy, non-participating, and oversensitive behaviors), and likeability (consisting of items describing popularity and social competence). The authors report test-retest correlations greater than .80 on all the factors. The authors also report correlations between

teacher's, peer and self-ratings on this measure. The teacher-peer correlations range between .28 and .73 with a median of .57. The self-peer correlations range between .04 and .59 with a median of .39.

In summary, it is argued in the present study, that the inconsistent results regarding the relationship between social behavior and social cognition may be attributed to inconsistent control by researchers of four factors. First, not every type of role-taking skill may be associated with social behavior and not every operationalization of the role-taking constructs are accurate reflections of what they measure. Second, although Feshbach and Feshbach (1969) posit a negative association between maladaptive behavior and role-taking skills, research thus far has been limited to an examination of aggressive behavior. Since the frequency of peer interaction is an important determinant of role-taking ability according to Piaget (1928), it is suggested, in the present study, that withdrawn behavior should involve role-taking deficit more than aggressive behavior. Third, it is noted that children who served as research subjects were often too young to demonstrate an association between social behavior and certain role-taking skills. Fourth, the social behavior measures used in this research area were designed with absent others or were adult derived, where a peer nomination might have more accurately reflected the social behavior of children.

The purpose of the present study was first to determine whether withdrawn rather than aggressive behavior is related to poor role-taking ability and second, to determine whether this relation is specific to social rather than cognitive role-taking skills. Therefore, the study tested the following predictions: (1) If peer interaction is a

significant factor it is expected that withdrawn and aggressive-withdrawn children will demonstrate role-taking skills inferior to those of aggressive and control children; (2) if role-taking skills are specific to social role-taking, it is expected that withdrawn children will be relatively inferior in social role-taking ability but not in cognitive role-taking skill; and (3) if prosocial behavior, as measured by the likeability score of the PEI, reflects good role-taking ability, it is expected that likeability will correlate positively with social role-taking skills.

METHOD

Subjects

The subjects of the present study were 48 volunteer Francophone seventh graders attending schools of the Commission des Ecoles Catholiques de Montreal. The subjects were part of a larger study (Ledingham, in press) who had been assigned to one of four groups on the basis of their score on the Pupil Evaluation Inventory (Pekarik, Prihiz, Liebert, Weintraub & Neale, 1976) (PEI). This measure requires each child to name those boys and girls in the classroom whose behavior correspond the most to the description of each item of the questionnaire, excluding him or herself. Boys and girls are rated separately. This instrument yields scores on three factors: aggression, withdrawal and likeability (see Introduction). Total nominations for each child were calculated for items loading on each of these factors and converted to Z scores.

The criteria used by Ledingham (in press) to assign the subjects to the aggressive, withdrawn, aggressive-withdrawn, and control groups were as follows. The children of the aggressive group obtained Z scores on the aggression factor exceeding the 95th percentile and a withdrawal Z score below the top quartile. Those assigned to the withdrawn group obtained Z scores on the withdrawal factor exceeding the 95th percentile and an aggression Z score below the top quartile. Those scoring in the top quartile on both aggression and withdrawal were

assigned to the aggressive-withdrawn group. Control subjects were chosen randomly from among those whose Z scores fell below the top quartile for both aggression and withdrawal. In the present study, 12 subjects were randomly chosen from each of these large groups, but matched for sex with the exception of the withdrawn group. In that group only four girls volunteered to participate in the present investigation. Two boys filled the vacant positions in order to keep this group equal in size to the others. Parental consent was obtained for the children selected as subjects.

The PEI was administered approximately two years prior to the administration of the role-taking and vocabulary measures. A two-way analysis of variance revealed no significant differences in age between groups and between sexes. Mean age for the total sample was 13.1 (SD .68).

Measures

The Glucksberg and Krauss (1967) Referential Communication Task was used as a measure of cognitive role-taking skills. This task requires that the child communicate descriptive information about six low-encodable graphic designs (see Appendix A). The experimenter and subject sit on opposite sides of a screen, where they cannot see each other nor each other's blocks. Both have the same sets of figures. The blocks are presented in a random order, although the blocks themselves do not rotate. The speaker, the child, has to tell which novel figures he selects from the total set in a given order so that the listener can find this figure among his own set and reproduce that order of figures. Two sets of designs are used as practice to ensure that the

children fully understand the rules and goals of the task. The score the subject receives is based on the number of distinctive features he mentions in his description (Rubin & Schneider, 1973). These are unambiguous descriptions of particular aspects of the referent. For example, the following description: "It goes up, then around, then to the right up again" has zero distinctive features since the listener does not know what "it" refers to. On the other hand, the following description: "The top part looks like a lemon, and on the bottom there are two fangs" has five distinctive features. The speaker informs the listener that at the (1) top part of the design a (2) lemon-shape appears and that at the (3) bottom there are (4) two (5) sharp edges. There are no vague pieces of information and probably any listener would be able to select the correct referent. A high score indicates high cognitive role-taking ability.

Two raters, blind as to the group membership of the subjects, independently evaluated the children's responses after receiving two hours of prior training and after reaching above 90 per cent interrater agreement. One of the raters on the Referential Communication Task was a research assistant, and the other, the author of this study.

The Selman (1976) Interpersonal Awareness Scale was used as a measure of social role-taking ability. This instrument records the child's respective conceptions of individuals, close friendships, and peer group relations. A set of issues (see Appendix B) in each of these three role contexts is presented to children in the form of dilemmas (see Appendix C) followed by a series of standard open-ended questions (see Appendix D). The dilemmas are used solely as opportunities for

discussion of the child's own experiences and his general understanding of the interpersonal issues in standard stimulus situations. The questions attempt to capture the child's understanding of relationships as defined by the five developmental stages proposed by Selman. The higher the score a child achieves, the more mature is his level of social role-taking ability. The interview procedures are standard and contained in an unpublished scoring manual (Note 8) (see Appendices B, C, and D).

Because of time limitations the procedure which examined for "conception of person" was discarded because this domain took the longest time to administer and was the most difficult to rate in preliminary testing. The interaction between the interviewer and the subject was audio tape recorded, to be rated subsequently by trained raters so that interrater reliability estimates could be computed. Two raters independently evaluated the audio tapes after receiving 30 hours of training, which included learning the scoring procedures according to the manual, and after attaining percentages of agreement with the interviewer of at least 80 per cent on practice tapes. During the rating of the subjects' tapes, interrater reliability was checked against interviewer evaluation for each tape to prevent drift from initial interrater agreement level. The interviewer's ratings were used solely for the purpose of reliability monitoring and not for ratings considered in the analysis of data. Interrater reliability varied between 78 and 100 per cent to yield an average of 86.3 per cent for the entire sample of recordings. In order to minimize the reactive effects of the assessment and to maximize its accuracy, the raters were made aware that reliability checks would be done in the course of rating of

tapes. The interviewer on the social role-taking scale was the author of the present study, who was fully acquainted with Selman's interview procedure. The two raters for the social role-taking scale were French-speaking research assistants. The interviewer and raters were blind as to which group the subjects had been assigned.

Procedure

Testing took place at the Applied Psychology Center at Concordia University in an interview room. All children individually completed the vocabulary subtest of a standardized French translation of the Wechsler Intelligence Scale for Children (Chevrier, 1967). This was done in order to partial out the effect of verbal skill.

Half the subjects were selected at random and received first the vocabulary test followed by the Referential Communication Task and lastly the Interpersonal Awareness Scale in another session. Each period lasted approximately 45 minutes. The sequence was reversed for the other half of the sample.

RESULTS

A two-way multivariate analysis of covariance (MANCOVA) with vocabulary score as the covariate was conducted to evaluate the combined discriminating power of the Glucksberg and Krauss (1967) Referential Communication Task and the Selman, (1976) Interpersonal Awareness Scale with respect to group category and sex. The analysis failed to demonstrate significant group by sex interaction or sex differences (see Table 1). The differences between aggressive, withdrawn, aggressive-withdrawn and control subjects, however, were marginally significant (Multivariate $F=2.13$, $p < .06$) (see Table 1). The WISC vocabulary subtest, which was used as a covariate, did not differentiate the subject groups. The means and standard deviations of the role-taking and vocabulary measures for each sex and group are presented in Table 2.

In order to evaluate the respective contribution of the Referential Communication Task and Interpersonal Awareness Scale, analyses of covariance (ANCOVA) were conducted for each of these measures. Sex effect was significant and group effect was marginally significant for the Interpersonal Awareness Scale but not for the Referential Communication Task (see Table 3). According to Hummel and Sligo (1971), however, one should not consider the significance of the sex effect at the univariate level since it did not reach significance at the multivariate level. In order to determine the source of group differences, a priori comparisons between covariance adjusted means were conducted according

Table 1

Multivariate Analysis of Covariance for Group and Sex Effects
on the Glucksberg and Krauss Referential Communication
Task and Selman Interpersonal Awareness Scale.

Source	Hyp. <u>df.</u>	Error <u>df.</u>	Wilks	Approx. <u>F</u>	<u>p</u>
<hr/>					
Covariate					
Vocabulary	2	38	.91	1.98	NS
Group	6	76	.73	2.13	.06
Sex	2	38	.90	2.20	NS
Group x Sex	6	76	.87	0.88	NS

Table 2

Group Means and Standard Deviations on the Glucksberg and Krauss
Referential Communication Task, Selman Interpersonal
Awareness Scale, and WISC Vocabulary Subtest

Group		Glucksberg et al. Task	Selman Scale	WISC Vocabulary
<u>Aggressive</u>				
Male (n=6)	<u>M</u>	3.87	1.76	9.17
	<u>SD</u>	(1.73)	(0.31)	(3.06)
Female (n=6)	<u>M</u>	5.00	2.14	11.67
	<u>SD</u>	(2.02)	(0.12)	(1.03)
<u>Withdrawn</u>				
Male (n=8)	<u>M</u>	3.78	1.67	13.00
	<u>SD</u>	(1.65)	(0.28)	(4.28)
Female (n=4)	<u>M</u>	3.88	1.80	7.75
	<u>SD</u>	(0.85)	(0.15)	(3.86)
<u>Aggr-Withdrawn</u>				
Male (n=6)	<u>M</u>	5.03	1.73	11.67
	<u>SD</u>	(2.45)	(0.33)	(2.73)
Female (n=6)	<u>M</u>	3.67	1.64	10.17
	<u>SD</u>	(1.57)	(0.38)	(1.94)
<u>Control</u>				
Male (n=6)	<u>M</u>	6.02	1.79	11.50
	<u>SD</u>	(3.20)	(0.24)	(3.39)
Female (n=6)	<u>M</u>	5.45	2.02	12.00
	<u>SD</u>	(2.77)	(0.27)	(2.00)

Table 3

Analyses of Covariance for Group and Sex Effects Variables on
the Glucksberg and Krauss Referential Communication Task and
Selman Interpersonal Awareness Scale

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Selman Interpersonal Awareness Scale					
Covariate					
Vocabulary	.12	1	.12	1.63	NS
Group	.64	3	.21	2.84	.06
Sex	.34	1	.34	4.52	.04
Group x Sex	.25	3	.09	1.12	NS
Error	3.12	39	.08		
Glucksberg and Krauss Referential Communication Task					
Covariate					
Vocabulary	10.19	1	10.19	2.23	NS
Group	21.03	3	7.01	1.53	NS
Sex	.02	1	.02	.00	NS
Group x Sex	9.02	3	3.00	.66	NS
Error	177.84	39	4.56		

to the predictions made. The adjusted mean scores which withdrawn and aggressive-withdrawn children obtained on the Interpersonal Awareness Scale were significantly lower than that of aggressive and control children in line with the prediction ($F(1, 43) = 7.24, p = .01$). Comparisons between aggressive and control children and between aggressive-withdrawn and withdrawn children revealed no significant differences in adjusted mean score on this measure ($F(1, 43) = .14, p > .05$; $F(1, 43) = .09, p > .05$). The correlation between the Referential Communication Task and Interpersonal Awareness Scale scores did not reach significance ($r = .11, p > .05$).

Since each of the role-taking measures yielded different results at the univariate level, a discriminant analysis was performed to determine which role-taking measure accounted for more of the group differences and the extent of their respective contribution at differentiating the group. The stepwise variable selection in the discriminant analysis showed that the Interpersonal Awareness Scale was significantly more discriminating than the Referential Communication Task (see Table 4). Adding the contribution of the Referential Communication Task to that of the Interpersonal Awareness Scale did not increase discriminating power since the marginal level of significance remained unchanged ($p = .07$).

Correlations were computed to determine correspondence between scores obtained on each role-taking measure and PEI likeability scores. As predicted, Interpersonal Awareness Scale was significantly related to likeability ($r = .30, p < .01$). There was no correlation between Referential Communication Task and PEI likeability scores.

Table 4

The Stepwise Variable Selection Functions on the Basis of the
Glucksberg and Krauss Referential Communication Task and
Selman Interpersonal Awareness Scale

Step	Variable	Wilks Lambda	Equiv. <u>F</u>	<u>df</u>	<u>p</u>
1	Selman Scale	.86	2.49	2, 44	.07
2	Glucksberg et al. Task	.77	1.99	6, 86	.07

DISCUSSION

As predicted, the type of role-taking measure influenced the relation between social behavior and social cognition regardless of whether social behavior was defined as prosocial (likeability) or maladaptive behavior (withdrawal). In the former instance a positive relation was found between likeability and role-taking scores while this was not the case when cognitive role-taking scores were used. In the latter instance the social role-taking measure discriminated children exhibiting withdrawn behavior from those who did not. Again no differences were found when the cognitive role-taking measure was used. The fact that social and cognitive role-taking abilities are differentially related to certain types of social behavior and are poorly inter-correlated suggests that they are sensitive to different aspects of social cognition. In contrast to the Glucksberg and Krauss (1967) task which assesses the child's ability to differentiate the other's perspective from his own, Selman's (1976) scale assesses the child's understanding of the nature of the relations between the child's various perspectives. The first appears more appropriate than the second as a measure of the preschool child's social cognitive development while the Selman measure may be more appropriate for older children in this context. This also suggests that what the older child does with his perspectives of others is more relevant to his social behavior than what these perspectives actually are.

The fact that withdrawn and aggressive-withdrawn children achieved lower scores than aggressive and control children on the Selman Interpersonal Awareness Scale indicates that peer interaction may be an important factor in learning social role-taking, although the present results merely establish a relation between these variables. Aggressive and control children may voice or act on their opinions and be challenged on them more often than may be the case for withdrawn and aggressive-withdrawn children. The latter groups of children fail to recognize their differing perspectives and to learn to integrate others' points of view with their own. The difference between the control and aggressive children, both of whom are good role-takers, may be in the way they acknowledge and use others' perspectives, rather than in their level of social awareness per se. This is where previous researchers have possibly erred in assuming that because aggressive behavior is anti-social, it is therefore negatively associated with role-taking skills. Although this may have been a logical assumption, the present study's results are consistent with Kurdek's (1978) contradictory finding: aggressive children are good role-takers. Asocial rather than anti-social behavior seems to reflect a lack of role-taking skills. Withdrawn and aggressive-withdrawn children avoid others or others avoid them. It seems reasonable to assume that their perspective on certain social dimensions is kept to themselves without adequate feedback and therefore hinders the development of their role-taking abilities.

The superior performance of aggressive and control children on the social role-taking task, in the present study, cannot be attributed to their verbal skills. Adjusting for verbal intelligence, as measured by

the WISC vocabulary subtest, did not have any effect on the results. Despite the verbal nature of Selman's measure, it is interesting to note that it did not favor the verbally superior subjects.

The results which pointed to the importance of peer-interaction in the development of social role-taking, however, only approached statistical significance. One possible reason is that the Pupil Evaluation Inventory, the criterion measure for the group assignment, was administered approximately two years before the subjects received the role-taking and vocabulary measures. During this interim period some subjects may have shifted from their behavioral category to another. A large scale shift appears unlikely, however, since this should have washed away the differences in social role-taking scores between the groups. A second factor concerns the scoring method of the Selman (1976) Interpersonal Awareness Scale. Precise categorization of subjects' social role-taking abilities is difficult. The scoring of this measure is, to a certain extent, arbitrary and subjective. The scoring criteria which Selman (Note 8) provides are often very general, thereby leaving the interpretation of a child's particular responses largely to the discretion of the raters. Much time was needed for the training of raters, in the present study, because of this margin of uncertainty. Prior to the ratings of the audio tapes, criteria based on Selman's theory were established to fill this gap for certain items. Without such clarification, it was not possible to attain the reliability level Selman (Note 8) reported for his scale. This lack of standardization in the scoring procedure precludes adequate evaluation of the reliability and validity of the measure. In order to test the hypotheses of the present

study rigorously a replication of the study with (a) a more current administration of the PEI, as the criterion measure for group assignment, and (b) further refinement of Selman scoring procedure are necessary.

The present study is useful, however, because it examines factors which have been overlooked in previous studies of social behavior and role-taking abilities in children, namely frequency of peer interaction and specificity of role-taking measures. The age of the subjects may also account in part for the pattern of results obtained. A further factor which distinguishes the present study is the criterion measure used to categorize the social behaviour of the children. The peer nominations technique may yield more meaningful results than one which is adult-based. Finally, the possibility that girls are more advanced than boys in social role-taking ability has been suggested in the univariate analysis of the findings. The present study, however, was not designed to evaluate adequately the contribution of age, method of categorizing social behavior and sex of child to measures of social role-taking ability. Such studies are clearly indicated.

The present study also suggests a number of possible lines of further research. First, although the present results indicate a positive relationship between frequency of peer interaction and social role-taking, a training study in which the variable of peer interaction is manipulated over an extended period of time would provide more direct evidence of the contribution of peer interaction to the development of social role-taking skills. Second, it would be important to determine whether peer interaction, specifically, is a determinant in the acquisition of social role-taking abilities or whether it is simply

social interaction which stimulates this development (e.g. sibling and parent interactions). Finally, it would be useful to determine the extent and types of social interactions (e.g. verbal versus nonverbal activity) needed to foster optimal social role-taking development in children.

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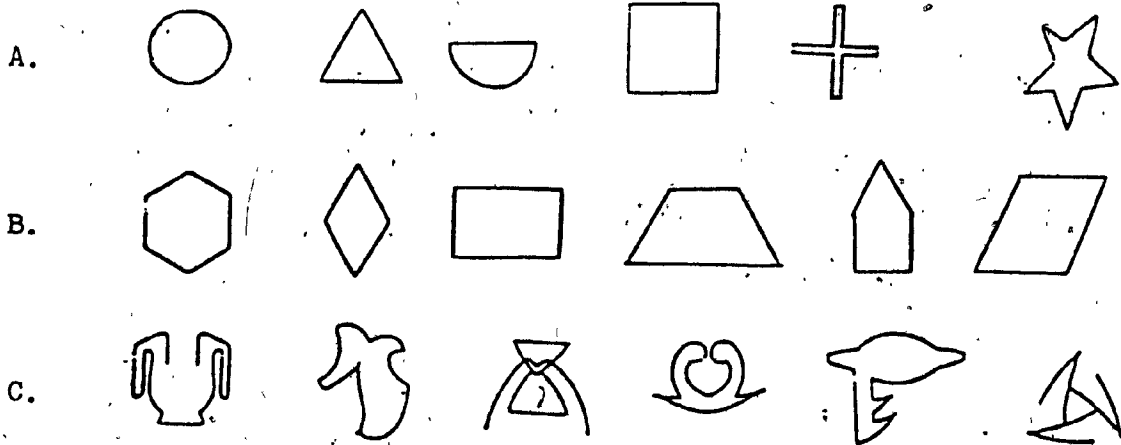
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APPENDIX A

Designs Use in the Administration of the
Glucksberg and Krauss Referential Com-
munication Task



Note: A and B designs were used on practice trials. C designs were used on the scored trials.

APPENDIX B

Issues of Interpersonal Awareness Scale Related to Conceptions
of Close Friendships and Peer Group Organization

Friendship	Peer Group
1. Formation: Why and how friends and ideal friends are made.	1. Formation: Why and how groups are formed; what is an ideal member.
2. Closeness: Types of friendship and intimacy.	2. Cohesion/Loyalty: Group unity.
3. Trust: Doing things for friends and reciprocity in friendship.	3. Conformity: Range and rationale.
4. Jealousy: Feelings about intrusions into new or established friendships.	4. Rules/Norms: Types of rules and reason for them.
5. Conflicts: How friends resolve problems.	5. Decision-Making: Setting goals, resolving problems and working together.
6. Termination: How friendships break up.	6. Leadership: Qualities and function of the group.
	7. Termination: Why groups break up or members are excluded.

APPENDIX C

Friendship and Peer Group Dilemmas Use in the
Interpersonal Awareness Scale

Friendship Dilemma

Charlene and Joanne have been good friends since they were five. Now they were in high school and Joanne was trying out for the school play. As usual she was nervous about how she had done, but Charlene was there to tell her she was very good and give her moral support. Still Joanne was worried that a newcomer in school would get the part. The new girl, Tina, came over to congratulate Joanne on her performance and then asked if she could join the girls for a snack. Right away Charlene and Tina seemed to hit it off very well. They talked about where Tina was from and the kinds of things she could do in her new school. Joanne, on the other hand, didn't seem to like Tina very well. She thought Tina was a little pushy, and maybe she was a bit jealous over all the attention Charlene was giving Tina.

When Tina left the other two alone, Joanne and Charlene arranged to get together on Saturday, because Joanne had a problem that she would like to talk over with Charlene. But later that day, Tina called Charlene and asked her to go to Washington to see a play on Saturday.

Charlene had a dilemma. She would have jumped at the chance to go with Tina, but she had already promised to see Joanne. Joanne might have understood and been happy that Charlene had the chance to go, or she might feel like she was losing her best friend when she really needed her.

Peer Group Dilemma

The Jets and the Cougars were two street hockey clubs that got together every week for a game of street hockey. In street hockey you try to get a little ball into a net or goal that is guarded by one player called the goalie. But you have to watch out because the other team is trying to get the ball in your goal and if they do it more times than your team does, they win the game. When the Jets and the Cougars got together to play, the Jets won every single game. In fact, the Jets were a much better club. They had uniforms, better players, they worked better together, and they had better spirit. The Cougars weren't too good. They tried hard, but they just couldn't seem to work very well together. One of their big problems was that they didn't have a very good goalie. Scott was playing goalie for the Cougars now, but almost every time the Jets took a shot against him they would score. During a time-out the Cougars got together and agreed that they had to get a better goalie if they were to have any chance at all against the Jets. But who could they get? They talked about it among themselves until Scott remembered a friend of his, Mike, who had just got over a broken ankle. Mike had been on a team before and was very good, so the Cougars went off to ask him to join their team.

But the Jets overheard the Cougars talking about Mike and they thought he might want to join a winning team. So the Jets ran over to Mike's house, just as Mike was saying he would really like to join a team. The Jets tried to get him on their team by offering him a uniform, a trip to a real ice hockey game, and a chance to be co-captain. The Cougars tried to get Mike on their team by telling him that he could

really help their team, that Scott, his good friend, was on their team, and that he would be a great player on the Cougars, but only average on the Jets.

Mike agrees with some of the reasons for both teams, but can't decide which team to join.

APPENDIX D

Questions Used in the Friendship and Peer Group Dilemmas
in the Interpersonal Awareness Scale

Friendship Questions

Open-ended Probes

1. What do you think the problem is in this story?
2. What do you think Kathy/Charlene will do, choose to be with her old friend Becky/Joanne or go with the new girl, Jeanette/Tina? Why? Which do you think is more important to be with, an old friend or make new friends? Why?
3. Do you have a best friend? What kind of friendship do you have with that person? What makes that person your best friend? (Use this information for probing personal knowledge of remaining friendship issues.)

I Formation

A. Motives — Why friends are important

1. Jeanette/Tina is a new girl in town and is trying to make friends. Why do you think making friends is important to her?
2. Why are friends important? Why does a person need a good friend?

B. Mechanisms — How one goes about making friends

1. How should Jeanette/Tina go about making new friends? What are some things she should keep in mind?
2. Is it easy or hard to make a good friend? Why? Why is it sometimes _____ (the opposite)?

C. Ideal friend — Qualities of persons that make a good friend

1. What kind of person makes a good friend?
2. What kind of person would you not want as a friend?

II. Closeness/Intimacy — Different types of friendships and factors which make for close and affectionate friendships

1. What kind of friendship do you think Kathy/Charlene and Becky/Joanne have? (Do you think it is a good or close friendship?) What is a really good close friendship? Does it take something special to have a very good friendship? What kind of things do good friends know about each other?
2. What does being friends for a long time, like Kathy/Charlene and Becky/Joanne have, do for a friendship?
3. What makes close/good friendships last?
4. What kinds of things can good friends talk about that other friends sometimes can't? What kinds of problems can they talk over?
5. What makes two friends feel really close to each other?
6. What's the difference between the kind of friendship Becky/Joanne and Kathy/Charlene have and Kathy/Charlene and Jeanette/Tina's friendship? Are there different kinds of friendship? What's the difference between a regular and best friendship?
7. Is it better when close friends are like each other or different from each other? Why? In what way should good friends be the same? In what way should they be different?
8. Which is better to have (be with) one close friend or a group of regular friends? Why?

III. Trust and Reciprocity — the value and nature of trust and reciprocity in a close friendship

1. What kinds of things do good friends, like Becky/Joanne and Kathy/Charlene do for each other? Is it important to do things for each other for a good friendship? Why?
2. Do you think it is important for Becky/Joanne and Kathy/Charlene to trust each other in order to stay good friends? Why?
3. Do you think trust is important for a good friendship? Why?
4. What is trust anyway? Is it something more than just keeping secrets and paying back? Is there something more, something deeper to trust?
5. Is there a difference between the trust someone has in a best friend and the trust you have in someone you just know from school or something?

IV. Jealousy — The nature of jealousy and its effects on friendship

1. If Kathy/Charlene and Jeanette/Tina (the new girl) become good friends, what will that do to Kathy/Charlene and Becky/Joanne's friendship?
2. How do you think Becky/Joanne feels about the new friendship? Do you think she might get jealous? What do you think she is jealous of?
3. What does it mean to be jealous in a friendship? What does jealousy do to a friendship? How can jealousy hurt a friendship?

V. Conflict Resolution — How arguments or conflicts are settled between good friends and the effect of arguments on friendships

1. If Becky/Joanne and Kathy/Charlene have a big argument over this problem, how could they work things out so they stay good friends?
2. Could their friendship actually become better from having this argument? Can arguments ever help a friendship?

3. Can people be friends even if they are having arguments? How is that possible?
4. How should arguments be settled between good friends?
5. What kinds of things do good friends sometimes fight or argue about?

VI. Termination — How and why close friendships break up

1. If Kathy/Charlene and Jeanette/Tina become good friends, what do you think will happen to Becky/Joanne's and Kathy/Charlene's friendship? Do you think it might break up because of it?
2. What makes friendships break up?
3. Why is it that these little things can sometimes become arguments big enough to ruin a friendship? How do little things sometimes get blown up between friends?
4. What does a person lose when they lose a good friend?
5. Why is it that good friends sometimes grow apart? What does it mean to grow apart from a good friend?

Peer Group Questions.

Open-Ended Probes

1. What do you think the problem is in this story?
2. Do you belong to any groups like those street hockey clubs? How about other kinds of clubs or sport teams or school groups? What about a group of your friends that hang around together, is that kind of like a group? What kind of things do you do? (Use this information for probing personal knowledge of remaining group relations issues.)

I. Formation

A. Why Join or Form Groups?

1. What do you think Mike should do, join the Jets or the Cougars? Why?
2. Why do you think Mike and the rest of the kids want to be part of a group like a street hockey club? Anything besides just playing street hockey?

B. How Are Groups Formed -- How Does One Join?

3. Do you think it would be easy or hard to become a member of a group that has already been together, like those clubs or sports teams? Why?
4. The Cougars don't have a good club yet. If you were made captain what would you do to really get their club going? What does it take to turn just a bunch of kids into a really good club?
5. Sometimes when a person joins a group, like a club or sports team, there are things they have to do before they are let in called initiations. Why do you think groups do that?

C. What Type of Person as a Group Member?

6. What kind of person do the Cougars need on their hockey club? Anything besides being a good player?
7. What kind of person makes a good member of a club or sports team?

II. Cohesion

1. Some sports teams or regular clubs just can't seem to stay together. What do you think it will take to keep the Cougars together as a group?
2. Do you think something like team spirit would help the Cougars stay together and get their club going? Why? What is team spirit, anyway? (If S does not know the concept, say: a feeling that they are all part of the same group.) How would you get team spirit going on the Cougars? Why do you think it is important for a group to have team spirit?
3. Would it help the Cougars if they were all loyal to their clubs? Why? Would Mike's loyalty to the Cougars be pretty important? Why? What is loyalty anyway? (If S does not know, say: a feeling that each person will stick with the group no matter what.) Do you think loyalty would help a group stay together? Why?
4. What makes members of a group, like these sports clubs get along well? What about a regular club that has meetings and things, what makes them get along really well?

III. Conformity

1. Before the Jets got together as a club everybody acted differently. But now they all act alike, they are all show-offs. What do you think makes them all act the same?

2. One problem that sometimes happens in clubs and other groups is that a person might go along with what the group is doing, even though he doesn't really want to, just because the rest of the group is doing it. Why does that happen?
3. Is it better when people in a club are pretty much the same or when they are different from each other? In what ways should they be the same? In what ways should they be different?
4. Is it good or bad when one member of a club is different from everyone else in the group?

IV. Rule Orientation

1. Would it help the Cougars get going if they made rules for their club? Why?
2. Why would you need rules when you have a club, but not when it is just between two friends?
3. What kind of rules should a group have? Why those?
4. Should all members of the club obey the rules? Why?

V. Decision-Making and Organization

1. What is the best way to decide what rules the Cougars' club might have? Should the leader decide or should everybody help decide? Why?
2. How would the Cougars decide what they are going to do, like who they are going to play or when they are going to practice?
3. Is voting a good way for a club to decide on things? Why? Is it better when everyone votes the same or is it enough to have a majority? (If S does not understand, say: where a little more than half the members vote one way.) Why might it be better if everyone votes the same way?