FRIENDSHIP UNDERSTANDING IN SOCIALLY
ACCEPTED, REJECTED, AND NEGLECTED CHILDREN

By

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Abstract

The purpose of this study was to determine whether children with poor peer relations display a developmental lag in their conceptions of friendship. The social-cognitive level of friendship understanding, as outlined in Selman's Theory of Interpersonal Understanding, was compared in a sample of 31 second-grade and 40 seventh-grade children who were identified as being accepted, rejected, or neglected by peers, according to a peer sociometric nomination measure. As expected, results indicated that conceptions of friendship held by grade 7 children represented higher stages of social-cognitive development than conceptions held by grade 2 children. Results also indicated there was no difference among accepted, rejected, and neglected children in their general intellectual abilities, as measured by the Vocabulary and Block Design subtests of the WISC-R. However, contrary to experimental predictions, when compared with their socially accepted classmates, rejected and neglected children did not show a developmental lag in their understanding of friendship. If the social effectiveness of social isolates from normal school populations is not limited by immature conceptions of interpersonal relations, as has been found in clinic populations, then intervention programs for these children may need to target other social-cognitive (e.g., interpersonal problem solving skills) or behavioral skills (e.g., prosocial behavior) or affective difficulties (e.g., social anxiety) as primary therapeutic goals. The possibility that an interpersonal reasoning enrichment component of a treatment package focusing on one or more of these other aspects of social competence needs to be empirically evaluated.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>1</td>
</tr>
<tr>
<td>The Importance of Peer Relationships</td>
<td>2</td>
</tr>
<tr>
<td>Implications and Prevalence of Social Isolation</td>
<td>3</td>
</tr>
<tr>
<td>Assessment of Social Competence</td>
<td>5</td>
</tr>
<tr>
<td>Behavioral Observations</td>
<td>6</td>
</tr>
<tr>
<td>Teacher Judgements</td>
<td>7</td>
</tr>
<tr>
<td>Peer Judgements</td>
<td>8</td>
</tr>
<tr>
<td>Relationships Among the Three Methods of Assessment</td>
<td>13</td>
</tr>
<tr>
<td>Subgroups of Socially Isolated Children</td>
<td>14</td>
</tr>
<tr>
<td>Treatment of Socially Isolated Children</td>
<td>17</td>
</tr>
<tr>
<td>The Relationship Between Social Cognition and Social Behavior</td>
<td>20</td>
</tr>
<tr>
<td>Selman's Theory of Interpersonal Understanding</td>
<td>23</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>32</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>33</td>
</tr>
<tr>
<td>METHOD</td>
<td></td>
</tr>
<tr>
<td>Overview of Method</td>
<td>35</td>
</tr>
<tr>
<td>Subjects</td>
<td>35</td>
</tr>
<tr>
<td>Measures</td>
<td>37</td>
</tr>
<tr>
<td>Social Competence: Sociometric Nominations</td>
<td>37</td>
</tr>
</tbody>
</table>
Classification and Scoring Criteria 39

Intellectual Ability: WISC-R 42

Social Cognition: Interpersonal Understanding 43

Scoring Method 45

Interviewers 46

Procedure 48

Project Approval 48

Sociometric Nominations 49

Interviews 51

RESULTS

Outcome of Sociometric Nominations 53

Distribution of Status Groups 53

Relationship Between Status and Gender; Status and Race 54

Relationship Between Status and Participation 54

Primary Analyses 57

Relationship Between Grade, Sociometric Status and IQ 57

Relationship Between Friendship Understanding and IQ 61

Relationship Between Grade, Sociometric Status and Friendship Understanding 62

Checks on Interviewer Behavior 63

Interscorer Reliability 63

Relationship Between Grade, Sociometric Status, and Six Friendship Issues 66

DISCUSSION

Major Hypotheses - iv - 73
Hypothesis 1: Grade and Friendship Understanding 73

Hypothesis 2: Sociometric Status and Friendship Understanding

Social Competency and Interpersonal Understanding 79
Interpersonal Understanding and IQ 82
Social Competency and IQ 84

Hypothesis 3: Sociometric Status and Friendship Issues 86

Summary of Major Findings 87
Future Research 90

FOOTNOTES 92
REFERENCES 93

APPENDICES

Appendix A: Letter to Parents and Consent Form 101
Appendix B: Introduction of Project and Sociometric Nomination Exercise to Students 104
Appendix C: Guidelines for Conducting Friendship Understanding Interview 106
Appendix D: Interview Instructions for Child 110
Appendix E: Interview Questions and Probes 112
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Stages of Friendship</td>
<td>24</td>
</tr>
<tr>
<td>Table 2</td>
<td>Issues in the Friendship Domain</td>
<td>28</td>
</tr>
<tr>
<td>Table 3</td>
<td>Sociometric Status Classification Criteria</td>
<td>40</td>
</tr>
<tr>
<td>Table 4</td>
<td>Criteria for Rare Like/Disliked and Impact Scores</td>
<td>41</td>
</tr>
<tr>
<td>Table 5</td>
<td>Breakdown of Parental Consent by Grade and Sociometric Status</td>
<td>55</td>
</tr>
<tr>
<td>Table 6</td>
<td>Group n's by Grade and Sociometric Status</td>
<td>56</td>
</tr>
<tr>
<td>Table 7</td>
<td>Mean Block Design, Vocabulary, and IQ Scores by Grade Sociometric Status</td>
<td>58</td>
</tr>
<tr>
<td>Table 8</td>
<td>ANOVA Summary Tables for Block Design, Vocabulary, and IQ</td>
<td>60</td>
</tr>
<tr>
<td>Table 9</td>
<td>Mean Friendship Understanding Scores by Grade and Sociometric Status</td>
<td>62</td>
</tr>
<tr>
<td>Table 10</td>
<td>ANOVA Summary Tables for Friendship Understanding and Range of Reasoning</td>
<td>64</td>
</tr>
<tr>
<td>Table 11</td>
<td>ANOVA Summary Tables for Probes and Positive Reinforcement</td>
<td>65</td>
</tr>
<tr>
<td>Table 12</td>
<td>Intercorrelations between Friendship Understanding Scores (FUS) and Friendship Issue Scores</td>
<td>67</td>
</tr>
<tr>
<td>Table 13</td>
<td>Mean Friendship Issue Scores by Grade and Sociometric Status</td>
<td>68</td>
</tr>
<tr>
<td>Table 14</td>
<td>MANOVA Summary Table For Friendship Issue Scores</td>
<td>71</td>
</tr>
<tr>
<td>Table 15</td>
<td>ANOVA Summary Table for Main Effect of Grade on Friendship Issues</td>
<td>72</td>
</tr>
</tbody>
</table>
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Introduction

Overview

The purpose of this study was to examine some of the characteristics that may differentiate socially maladjusted children from their better adjusted peers. It was hoped such information would contribute to the efforts of clinicians and researchers who are concerned with developing appropriate and effective interventions for these children. The specific question addressed in the study was, "Do socially isolated children differ from their peers in their understanding of friendship?" It was reasoned that such differences could contribute to the difficulties experienced by these children when interacting with peers. Peer sociometric nomination procedures were used to identify elementary school children who were either accepted, rejected, or neglected by their classmates. Conceptions of friendship held by these three groups of children were then assessed and compared. Selman's (1980) structural developmental theory of Interpersonal Understanding provided the model and measure (Selman, 1979) for assessing levels of social cognitive development.

In the past decade, clinicians and researchers have become increasingly concerned about childhood social isolation. Efforts to better understand this problem have lead to numerous investigations focusing on several related topics: the assessment of children's social competence (see Foster & Ritchey, 1979; Green & Forehand, 1980; Kane & Lawler, 1978, for reviews), the concurrent and predictive correlates of social status (e.g., Coie, Dodge, & Coppotelli, 1982; Gresham, 1982; Ladd & Oden, 1979; Peery, 1979; Rubin & Clark, 1983; Vosk,
Forehand, Parker, & Rickard, 1982), and social-cognitive development (e.g., Bigelow, 1977; Dickens & Perlman, 1981; Furman, 1982; Selman, 1980), and the efficacy of social skill training and social-cognitive problem solving interventions (see Conger & Keane, 1981; Urbain & Kendall, 1980, for respective reviews). The introduction of this paper will provide the reader with an overview of this burgeoning body of literature. The following pertinent topics will be presented: the importance of peer relationships, the implications and prevalence of social isolation, the assessment of social isolation, subgroups of socially isolated children, treatment issues, and the relationship between social cognition and social behavior. A review of Selman's Theory of Interpersonal Understanding will then be presented as the theory provided a major impetus in the study's conception. Finally, the study's purpose and specific hypotheses will be presented.

The Importance of Peer Relationships

Whereas past research focused primarily on social development as it occurs within the context of the parent-child relationship, current research is being focused primarily on social development as it occurs within the context of peer relationships (Kendall & Morison, 1984). Social learning and developmental theorists posit that peer interactions play a critical role in a child's social skill and social-cognitive development. From a social learning perspective, peer interactions are thought to facilitate the development of social competence. Research evidence indicates that peers serve as social learning models (Furman, Rahe, & Hartup, 1979; O'Connor, 1969; Oden & Asher, 1977); as teachers of social skills, norms, and values (Asher & Renshaw, 1981; Furman, 1984); and as
social reinforcers (Hartup, Glazer, & Charlesworth, 1967; Rubin, Daniels-Beirness, & Bream, 1984). Fine (1981) suggests that children's friendships serve three functions that contribute to the development of social interactional skills. First of all, friendships are a staging area for exploration and ultimate management of behaviors (such as aggressive and sexual behaviors). Secondly, friendships are a training area for learning culturally appropriate methods of dealing with problems. Thirdly, friendships provide a context within which children develop a sense of self through role taking and adopting the perspective of others.

Developmental theorists have also emphasized the importance of peer interactions in social development, cognitive development, and more recently, the interface between the two, i.e., social-cognitive development. Piaget (1932) theorized that peer play fosters reciprocity and socialized thought through compromise and resolution of social conflict. Sullivan (1953) theorized that the development of concepts such as cooperation, mutual respect, and interpersonal sensitivity emanate through friendships. Peer interactions are also thought to facilitate social-cognitive abilities such as moral reasoning (Kohlberg, 1981) and perspective-taking (Selman, 1980). These and similar theoretical views are supported by empirical studies (e.g., Burns & Brainerd, 1979; Chandler, 1973) which have demonstrated that interventions involving peer interaction enhance social-cognitive ability.

**Implications and Prevalence of Social Isolation**

The study of poor peer relationships among youngsters is important
because accumulating evidence suggests that concurrent problems associated with social isolation can be severe, and that the problem of isolation is widespread. Research indicates that social maladjustment in childhood may be associated with learning and academic difficulties (Bonney, 1971; Green, Forehand, Beck, & Vosk, 1980), withdrawal from school (Roff, Sells, & Golden, 1972; Ullman, 1957), adolescent sexual disorders (Roff et al., 1972), and substance abuse (Kellam, Brown, Hendricks, & Fleming, 1982) and is predictive of psychological problems in adulthood (Cowen, Pederson, Babigian, Izzo, & Trost, 1973).

Estimates of the proportion of socially isolated children vary considerably from 1% to 35% of the normal population. Kupfer, Detre, and Korel (1974) found that 2.5% of the local school population (16,986 children from primary grades to high school) were rated by teachers as unusually aggressive; 2.1% of the children were rated as excessively shy and withdrawn. Moreno (1934), who first introduced the use of sociometric procedures, reported that 15% to 35% of the children in kindergarten through eighth grade were isolates. In a sample of 848 third-, fifth-, and eighth-graders, Coie et al. (1982) found that 13% of the children were rejected by peers (based on sociometric nominations) and another 13% were neglected by peers. Asher and Renshaw (1981) noted that research spanning four decades indicates that at least 5% to 10% of elementary school children are not named as a friend by any classmate. The discrepancy in the proportion of children identified as social isolates is likely due to two factors: (a) differences in assessment procedures and selection criteria employed across studies (Hops, 1983) and (b) variance in isolation that may be associated with age-related developmental changes.
Assessment of Social Competence

Social competence is generally assessed by the following methods: behavioral observation, teacher judgements, and peer judgements. Before describing each of these methods and the relationships among them, clarification of some of the terms and constructs used in the literature and in this paper is in order.

There is some confusion concerning conceptual and operational definitions of terms such as social competence, social skill, and social isolation. This confusion stems in part from researchers using the same or similar terms to refer to related, but distinct concepts. For example, social competence is used interchangeably with social skill. Social isolation is used interchangeably with social withdrawal. For the purposes of this paper, social competence is construed to consist of two components: (a) knowledge of general interaction principles or concepts and (b) a repertoire of specific behaviors or behavioral sequences that can be used to actualize the more general principles (Asher & Renshaw, 1981). Social skill is construed to be those specific behavior(s) or "responses which, within a given situation prove effective, or ... maximize the probability of producing, maintaining, or enhancing positive effects for the interactor." (Foster & Ritchey, 1979, p.626). Thus the construct of social competence subsumes the construct of social skill.

The confusion in terms used is also directly related to methods of assessment. Not surprisingly, researchers select and operationally define populations of socially maladjusted children in a variety of ways. These
populations, and the terms used to describe them, overlap. For example, Zimbardo (1982) refers to the shy child (a child who is anxious and uncomfortable with peers); Furman (1982) refers to the socially withdrawn child (high rates of nonsocial play behavior); and Vosk et al. (1982) refer to the unpopular child (low sociometric status). For the purposes of this paper, social isolation refers to a general state experienced by children who have problems interacting with peers. Social withdrawal refers to a behavior pattern that is thought to be characteristic of one subgroup of isolated children. Thus, the construct of social isolation subsumes the construct of social withdrawal.

Behavior Observation. Direct behavior observation methods are used extensively to specify behaviors or skills that comprise adaptive and maladaptive social functioning. Behaviors are coded within the context of naturalistic settings (typically a classroom), structured situations (a game or task contrived by the investigator), or behavior analog situations (role play of a social situation). Naturalistic observation is the most commonly used strategy of the three approaches (Michelson & Wood, 1980).

Direct behavioral observations offer a number of advantages (Foster & Ritchey, 1979). One advantage is that specific, operationally defined behaviors (such as hitting), rather than global constructs (such as aggression), are measured. As a result, inferences about what data represent are minimized. A second advantage is that psychometric properties are largely under the experimenter's control. For example, biases that may influence the reliability of observational data and the steps required to minimize such problems, are reasonably well understood. A third and compelling advantage of behavioral
observations is that behavioral changes provide a socially valid measure of treatment effects.

However, the value of information derived from behavioral assessment methods is determined by the validity of the behaviors chosen for observation. The identification of socially valid behaviors or skills that are critical to adaptive social functioning has been a pervasive problem (Foster & Ritchey, 1979; Furman, 1984). Initially, frequency of peer interaction was the most commonly used behavioral index of social competency because of its high face validity. Intuitively, low rates of interaction would seem to indicate poor social adjustment. However, subsequent research has shown little or no relationship between rate of interaction and other indices of adjustment. Moreover, rate of interaction fails to capture the essence of complex social interactions. Consequently, current investigations employing behavioral observation methods are focussing on type of behavior (for example, Rubin & Daniel-Beirness, 1983, code behaviors according to developmental play categories) or quality of behavior (positive behaviors like sharing or helping and negative behaviors like name-calling or hitting) rather than quantity of social behavior. This approach has been fruitful in identifying behaviors that predict other indices of social adjustment and discriminate among groups of children.

Teacher Judgement. Teacher judgements generally take two forms: checklists, or ratings and rankings (Green & Forehand, 1980). Checklists consist of a number of behavioral statements. Teachers indicate those statements which describe each student. Checklists yield scores on a number of dimensions such as aggressive, withdrawn, prosocial and anti-social behavior. The rating method
requires a teacher to rate each student on a five-point Likert scale according to a global characteristic such as shyness, or according to a specific behavioral criterion such as rate of interaction. The ranking method requires a teacher to rank all students according to a specific criterion.

Teacher assessments are reported to be reliable and valid measures of social competence (Connolly, 1983; Green, Beck, Forehand, & Vosk, 1980). This method of assessment is appealing for two reasons. First, teachers have the opportunity to regularly observe a child's social behavior in a number of situations over an extended period of time. Second, teacher observations provide researchers with an efficient and economical measure of social competence. The primary drawback of this method is that like all subjective measures, the data is influenced by personal biases. Unlike data derived from peer judgements, another subjective measure, data derived from teacher observations represent the perceptions of a single individual rather than the collective perception of many individuals.

Peer Judgement. There are two approaches to peer judgements: sociometric procedures and procedures classified under the general rubric of peer assessment measures (Asher & Hymel, 1981; Connolly, 1983).

Sociometric procedures are the most commonly used methods in identifying socially competent and incompetent children (Foster & Ritchey, 1979). There are two major methods of sociometric assessment: peer nominations and peer ratings. The format and administration of peer nominations vary according to the age of the children and the information desired by the
investigator. Children are asked to nominate those children in their group who satisfy a specific criterion. For example, children may be instructed to "Name someone you like (and don't like) to play with (or be friends with, or work with)." Oral or written nominations are used for elementary children whereas the picture board technique (children indicate their choices by pointing to mounted photographs of playmates) is used for preschoolers (Connolly, 1983). Peer rating procedures require nominators to respond to a sociometric question for every child in the group on a five-point Likert scale. A three-point scale, anchored by pictures of facial expressions, is used with preschoolers. Peer nominations and peer ratings tap different aspects of social status and are not directly comparable. Ratings define an average level of likeability or acceptance within a group whereas nominations assess interpersonal relationships. That is, a child might be of average acceptability, yet not have any friends. The correlation between peer nominations and peer ratings is .63 (Connolly, 1983). Peer ratings offer some advantages relative to nominations. First, the rating score seems to be more stable, as each child is rated by all peers. Second, there is some evidence to suggest that rating scores are more sensitive than nominations to small changes in social status (Asher & Hymel, 1981).

Arguments in favor of the use of these peer sociometric measures include: (a) these measures have been shown to provide a reliable and valid index of current peer relations for preschool and elementary school children (Asher & Hymel, 1981; Connolly, 1983; Gottman & Parkhurst, 1980; Kane & Lawler, 1978), and are sensitive predictors of social functioning in adulthood (Cowen et al., 1983); (b) sociometric measures provide an evaluation of children's social functioning from the perspective of the child's peers, rather than from the more
distant perspective of adults (Green et al., 1980); and (c) sociometric measures are efficient to use in that they can provide information about a large number of children in a short period of time (Hayvren & Hymel, 1984).

Even though sociometric procedures offer these advantages, they present some problems. First, researchers, clinicians, and school personnel are concerned about their use. Negative sociometric measures have raised ethical concerns that having children identify unpopular group members may teach children that saying negative things about others is socially acceptable and/or that the procedures may cause children to view disliked peers even more negatively (Hayvren & Hymel, 1984) and exacerbate peer conflicts. These concerns have not been empirically substantitated (Foster & Ritchey, 1979). Research experience indicates children respond to the exercise in a matter-of-fact manner (Asher & Hymel, 1981) without further prejudice toward disliked peers. It may be that as young children tend to be explicitly vocal about their feelings toward peers during the course of their daily interactions, they are well aware of which children in the group are liked and which are not. It seems unlikely that the sociometric exercise provides the children with novel information, or that it highlights information that is already salient within the group. Hayvren and Hymel (1984) empirically tested some of these concerns. They found that in the 10-minute period immediately following sociometric testing (presumably the time when sociometric testing would have its greatest impact) none of the 27 children mentioned a negative or neutral choice to a peer, even without explicit instructions not to discuss sociometric choices. Nor was there any difference in the frequency of negative interactions between positive peer nominees and negative peer nominees during this period. Furthermore, behav-
ioral observations indicated there was no difference in the frequency of negative interactions with most- versus least-liked peers in the weeks prior to and following sociometric testing. However, as Hayvren and Hymel's study was conducted with preschoolers, these findings may not generalize to older populations.

Second, the utility of sociometric measures is limited to the identification of children with social problems. Although the correlates of sociometric status are coming to light, the measure does not directly provide information about the precise nature of the problems.

Third, the administration and scoring of these measures have presented problems. Researchers have used a variety of scoring procedures and classification criteria which makes comparisons across studies difficult. For example, some investigators subtract negative nominations from positive nominations to obtain a sociometric score. However, as the two dimensions are reported to be uncorrelated (Asher & Hymel, 1981), this procedure is not recommended (French & Tyne, 1982; Kane & Lawler, 1978; Newcomb & Bukowski, 1983). Typically, scores are simply summed: popular children are those who receive a high number of positive nominations and rejected children are those who receive a high number of negative nominations. The number or proportion of children from each group who are then selected as meeting classification criteria is determined arbitrarily. For example, some investigators chose the 3 (Oden & Asher, 1977) or 4 (Gresham & Nagle, 1980) highest and lowest rated children in each class. Others chose the 16 (Vosk et al., 1982) to 20 (Gronlund & Anderson, 1957) of the highest and lowest rated children from the total sample. Others (Gottman et al.,
1975) chose to use a median split to identify high and low status children.

Peer assessment measures are the other major form of peer judgement strategies. The Bower (1960, 1969, 1981) Class Play measure is the most frequently used peer assessment technique. This measure was designed to be used in conjunction with teacher ratings as a screening battery. The battery was devised to help teachers identify third- through seventh-graders with emotional problems who could then be referred to a mental health professional for diagnosis and treatment. The measure consists of 14 (1981 version) hypothetical roles in a play. Students are instructed to select a classmate who would best play each role. Half the roles are positive roles (e.g., "Someone who is the leader when children do something in class.") and half are negative (e.g., "A person who often gets angry over nothing and gets into many fights."). A child's score is the percentage of positive and negative roles for which he or she was chosen.

Peer assessment measures are often incorrectly classified as a sociometric technique (Asher & Hymel, 1981; Connolly, 1983; Kane & Lawler, 1979). Sociometric procedures employ peer responses to one or two criteria questions as a measure of attraction or likeability between individuals within the group. Peer assessment measures require children to indicate certain characteristics, traits, or roles that describe their peers rather than to describe how much they like or dislike certain peers. Failure to distinguish the two types of measures can result in confusion in interpreting research concerning the behavioral correlates of sociometric status. Asher and Hymel (1981) argue that research examining the behavioral correlates of acceptance requires that a measure of attraction or
likeability be related to one or more measures of behavior. This is not the case when a peer assessment measure is used instead of a sociometric measure. Instead, peer descriptions of behavior are being related to other measures of behavior. These studies would be interpreted as studies of the validity of peer assessment rather than studies of the behavioral correlates of sociometric status (Asher & Hymel, 1981).

Relationships Among the Three Methods of Assessment. Modest to strong correlations exist among the three methods of assessment (Green & Forehand, 1980). Perfect correlations are not expected as behavioral observations, teacher judgements, and peer judgements each reflect a different aspect of social competence.

Moderate to strong correlations have been reported between peer and teacher judgements (Bower, 1981; Connolly, 1983; Green, Beck, Forehand, & Vosk, 1980). For example, Green, Forehand, Beck, and Vosk (1980) report a correlation between teacher ratings and positive peer ratings, rejected peer nominations, and disliked peer ratings of -.439, .481, and .586, respectively.

Moderate to moderate correlations are generally reported between peer judgement measures and behavioral observations. Furman (1984) points out that a specific social behavior is not going to be linked closely with sociometric status as sociometric status is affected by a number of other factors such as physical attractiveness, intelligence, and special skills or talents. Stronger predictive relationships are found between general patterns of prosocial behaviors and popular sociometric status and between general patterns of anti-
social (aggressive) behaviors and rejected sociometric status.

Modest to moderate correlations are also found between teacher judgments and behavioral observations. For example, Green, Forehand, Beck, and Vosk (1980) found a correlation of .201 between negative teacher ratings and rate of negative peer interaction. Connolly (1983) reports a moderate correlation between teacher rankings of popularity and rate of verbal interaction.

With respect to predicting behavior, it is generally reported that teacher judgements are as strong as, or better predictors of positive social behavior than peer judgements; but are weaker predictors of negative social behaviors. It appears that teachers can reliably identify children who have social problems, but are less accurate in differentiating subgroups of socially maladjusted children (Bower, 1981; Green, Beck, Forehand, & Vosk, 1980).

Subgroups of Socially Isolated Children

The revival of peer sociometric assessment measures has led to the identification of at least two subgroups of socially isolated children: Those who are rejected and those who are neglected by their peers (Coie et al., 1982; French & Tyne, 1982; Furman, 1982; Perry, 1979). Rejected children are those isolates who receive a high number of negative nominations or ratings from their peers and few, if any, positive endorsements. Neglected children are those isolates who seem to be simply ignored, rather than disliked by their peers. They
receive few, if any, positive or negative nominations from their peers. While some rejected or neglected children may have one or even two friends or playmates inside or outside the classroom, these children are isolates in the sense that they are excluded from close peer friendship groups.

Clinical profiles of accepted, rejected, and to a lesser extent, neglected children are emerging. Research indicates that accepted (average to popular) children tend to be more knowledgeable about how to make friends, distribute and receive more positive reinforcement, are better communicators (Gottman, Gonso, & Rasmussen, 1975), are more cooperative, show leadership skills (Coie & Dodge, 1983), and have greater social mobility (Ladd, 1983) than rejected or neglected children. Rejected children exhibit more behavior problems according to parent and teacher ratings (French & Waas, 1985), engage in more negative interactions (Coie et al., 1982; Vosk et al., 1982) involving physical and verbal aggression (Asarnow, 1983; Deluty, 1981; Dodge, 1980; Dodge, Schlundt, Schocken, & Delugach, 1983; Ladd, 1983), lack age appropriate knowledge about how to make friends, and are off task more often, both in the classroom (Gottman et al., 1975) and on the playground (Ladd, 1983). Neglected children, who have received little attention from researchers until very recently, engage in the least amount of aggressive behavior (Deluty, 1981) and are generally described as passive, withdrawn, timid, and shy (French & Tyne, 1982). For example, Renshaw and Asher (1982) found neglected, but not rejected, children were perceived as shy by their peers. Coie et al. (1982) also found that popular and rejected groups of children were not described as shy by their peers.

In a study conducted prior to the revival of sociometry, Kupfer et al.
(1974) compared three types (as identified by teachers) of problem school children: those who had learning difficulties, those who were aggressive, and those who were shy and withdrawn. Problem behaviors identified by factor analysis as typical of the shy/withdrawn children (stays alone at recess, seems friendless, not chosen for activities, doesn't speak to others) and of aggressive children (grabs, fights, brags, bosses others, verbally aggressive) are comparable to behaviors thought to be characteristic of socially neglected and socially rejected children respectively.

Sociometric status appears to be moderately stable, from kindergarten to grade one (Rubin & Daniels-Bierness, 1983) and from grade three through to grade ten (Coie & Dodge, 1983). However, Moreno (1934) found the proportion of isolates was highest in kindergarten and generally decreased with grade. Coie and Dodge (1983) found that of accepted, rejected, and neglected status groups, rejected status was the most stable. It appears that with time, neglected children are more likely than rejected children to experience a positive change in their social status and receive acceptance from peers. Cairns (1983) notes these findings are provocative in suggesting that perhaps neglected status children "are not as 'at risk' as they have been purported to be" (p. 434). This view appears to be supported by earlier work conducted by Morris, Soroker, and Burris (1954) who reported in a follow-up study that the majority of shy, withdrawn children (i.e., children most likely to be neglected by peers as suggested previously) were satisfactorily adjusted as adults. This appears to be a very positive outcome. Before optimistic conclusions are drawn, the study's small sample size (N of 34) and lack of objective measures or statistical analyses should be noted. The outcome becomes even less optimistic when the results are restated: a ful 35%
of shy, withdrawn children were only marginally adjusted as adults. Also, it should be recalled that the Coie and Dodge (1983) findings indicate neglected isolates are more likely to--but may not necessarily--experience a positive change in status.

Treatmet of Socially Isolated Children

A number of behavioral and cognitive treatment programs for isolated children have been developed. Based on evidence that rejected children exhibit behavioral problems and lack the social skills necessary for positive peer interchanges (Furman, 1982; Rubin & Daniels-Beirness, 1983), behavioral programs have targeted social skill deficits: Behavioral intervention strategies have included modeling (both film and live models), peer socialization, contingency management, coaching-instructional, and behavioral rehearsal techniques. Cognitive interventions, using techniques similar to those just described, have focused on training children in specific social-cognitive processes or abilities. The two main cognitive intervention approaches have been social perspective taking training (e.g., Chandler, 1973; Selman, 1980) and interpersonal problem solving training (Spivack & Shure, 1982).

Although as a collective, treatment outcome studies have been limited by methodological problems (i.e., small samples, single rather than multiple outcome measures, lack of appropriate control groups, lack of data examining treatment generalization), preliminary results are promising (see Conger & Keane, 1981; Kendall, 1982; Kendall & Morison, 1984; Urbain & Kendall, 1980; Wanlass & Prinz, 1982, for reviews). In addition to these methodological problems,
investigators are beginning to address two major shortcomings of earlier treatment studies.

One major shortcoming of these studies has been the failure to differentiate between subgroups of rejected and neglected isolates in their samples, or to tailor programs to meet the specific needs of these groups of children. It is becoming increasingly evident that not all socially isolated children have the same difficulties (Wanlass & Prinz, 1982): Some may have specific skill deficits, some may have the skills but are too anxious to apply them, some may engage in excessive aggressive behaviors, some may lack social knowledge, interpersonal problem solving strategies, or the ability to adopt another's perspective. Some isolates may experience several of these difficulties. Because of the multidimensional nature of the problem of social isolation, researchers and clinicians need to be certain that the behavioral and cognitive skills targeted in treatment programs are appropriate for the subgroups of isolates and for the individual child (Furman, 1982; Kendall, 1982; Michelson & Wood, 1980). A related issue, currently arising in the literature, is whether researchers and clinicians should concentrate their efforts on one or both groups of isolates. Some psychologists (e.g., French & Waas, 1985) recommend that efforts be focussed on the problems of rejected children in view of the following evidence: (a) the moderate stability of rejected, but not neglected status over a five year period, (b) repeated convergent evidence that rejected, but not neglected children, exhibit behavioral problems, and (c) the concurrent and long term severity of difficulties associated with rejected status. Others argue it is equally important to treat shy, withdrawn (i.e., neglected) children. As Cairn (1983) notes, the differential stability of social status and the reasons for its
persistance or change, requires further study; not all neglected children overcome their social status. Kendall and Morison (1984) argue that in the short run, intervention on behalf of these children can ameliorate immediate problems or psychological distress and improve overall adjustment. Moreover, as friendships facilitate cognitive, social, behavioral, emotional, and moral development, intervention can have positive developmental consequences.

A second major shortcoming of early treatment studies has been the failure to consider developmental factors in the design and implementation of programs. A number of researchers (Asher & Renshaw, 1981; Blyth, 1983; Dickens & Perlman, 1981; Furman, 1982; Michelson & Wood, 1980; Rubin, 1982) are emphasizing the importance of integrating the fields of developmental and child clinical psychology. Furman (1980, 1982) argues that a developmental perspective is essential for three reasons. First, it is essential to establish developmental norms of typical social behavior for any given age group in order that appropriate targets are selected for change. Investigators are often at odds as to which behaviors are problematic. Normative data is essential to determine, for example, when aggressive behavior is appropriate (or typical), excessive, or deficient. Second, consideration of developmental trends can enhance the application of traditional behavioral techniques. For example, Furman (1980) reviews evidence of developmental changes in the reinforcement value of different stimuli. For young children, social praise is most reinforcing when the emphasis is placed on approval ("I really like what you did.") For older children, social praise is most reinforcing when the correctness of the act is emphasized ("You did a really good job"). Third, an expanded, developmental view of the social world of children will facilitate new and more effective
approaches to treating and preventing social difficulties (Blythe, 1983).

Investigators are beginning to address these issues. Treatment studies in which neglected and rejected children are clearly differentiated and in which developmental considerations are incorporated are now being conducted (e.g., Bierman & Furman, 1984).

The Relationship between Social Cognition and Social Behavior

Child clinical researchers are also integrating their work with that of developmental researchers in order to investigate the social-cognitive abilities of social isolates and to examine the relationship between social cognition and social behavior. A basic assumption underlying research on the development of social cognition is that the way in which one reasons about other people and about social situations is a major determinant of one's social behavior and adjustment (Pellegrini, 1985; Shantz, 1983). Selman and Demorest (1984) suggest the behavior problems exhibited by isolates may represent difficulties with performance, with understanding, or both. Some of the social-cognitive research suggests that social-cognitive competence deficits may be limiting behavioral competencies. The relationship between social cognition and social skill is most likely bilaterally reciprocal, rather than unilaterally causal (Pellegrini, 1985). That is, social interaction facilitates social-cognitive development, and mature social-cognitive functioning facilitates behavioral competence.

Compared to the performances of their popular peers, children with
problematic peer relations seem to experience deficits in social-cognitive abilities such as affective perspective-taking and interpersonal problem solving. For example, Peery (1979) had popular, amiable, isolated, and rejected 4-year-olds complete a social comprehension task involving the ability to match affect to a social situation. Popular children scored significantly higher than isolated children who scored significantly higher than the rejected children. Similarly, McGuire and Weisz (1982) found with an older sample of fifth- and sixth-graders, that having friends versus not having friends was significantly associated with affective perspective-taking ability and altruism.

In their work examining interpersonal problem solving skill training, Spivack and Shure (1982) report that the ability to generate alternative solutions to problems is the most important skill uncovered among 4- and 5-year olds. This ability differentiates children they describe as normally behaving children from impatient-impulsive and inhibited-withdrawn children. Of these latter two groups, inhibited-withdrawn children seem to be more deficient. Although the children in these studies were not selected on the basis of peer sociometric status, parallels between impatient-impulsive and rejected children (noted for their disruptive, aggressive interaction style) and between inhibited-withdrawn and neglected children, can likely be drawn. Spivack and Shure also report that while normal and impatient-impulsive children can generate potential consequences of actions (with the latter group acting inappropriately despite this ability), inhibited-withdrawn children cannot. These authors also report that inhibited-withdrawn children are less likely than others to pick up on cues indicative of interpersonal problems than are other children.
Richard and Dodge (1982) replicated some of Spivack and Shure's (1982) findings in an older sample of 8- to 10-year-old popular, aggressive, and isolated boys selected on the basis of sociometric data. As in the earlier studies, boys with poor peer relations performed less skillfully than popular boys in generating solutions to interpersonal problems. As well, unpopular children were less skillful than popular peers in generating effective, alternative solutions. Unlike the Spivack and Shure (1982) findings, isolated children did not show greater deficiency in these skills than the aggressive children.

Results obtained by Asarnow and Callan (1985) with peer nominated popular and unpopular fourth- and sixth-grade boys ('isolates' or 'neglected' boys were not included in the sample) are consistent with those found by Richard and Dodge (1982). Asarnow and Callan (1985) found that in response to hypothetical interpersonal problems, unpopular boys generated fewer alternative solutions, (b) proposed fewer mature solutions, (c) generated more aggressive solutions, (d) showed less adaptive planning, and (e) evaluated physically aggressive responses more positively, and positive responses more negatively, than popular boys.

In summary, results from these and similar studies consistently indicate that children with problematic interaction styles may be characterized by immature social cognitive abilities such as interpersonal problem solving skills and affective perspective-taking skills.
Selman's Theory of Interpersonal Understanding

Selman (1976, 1980) has outlined the developmental process by which children construct and comprehend the relation of the perspectives of self and others (social perspective taking) and the developmental process of children's views and understanding of interpersonal relationships. Each level of social perspective taking is thought to provide the structural basis for a corresponding stage in the development of conceptions of interpersonal role relations. Like other structural stage models of development (such as Piaget's, 1970, theory of cognitive development and Kohlberg's (1981) theory of moral development), the stages of interpersonal understanding are thought to occur universally, in an invariant sequence. That is, whereas environmental factors can influence the rate of progression from one stage to the next, every individual progresses through the same sequence of stages. Each progressive stage level is qualitatively different from the next; that is, represents a fundamental restructuring in the way the individual views social relations. Each stage represents a structured wholeness; that is, it represents an underlying logic which characterizes thought at that stage across a variety of social processes or situations. Selman has identified stages of conceptual understanding across four domains of interpersonal role relations: individuals (i.e., conceptions of intrapsychic functioning of people in general), close friendships, peer groups, and parent-child relations. The domain of interest to this study is the friendship domain. A summary description of each of the five stages of development within this domain are presented in Table 1.
Table 1.
Stages of Friendship.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-7 years</td>
<td><strong>Stage 0 - Momentary physicalistic playmates.</strong> Dyadic friendship relations are based on thinking which focuses upon propinquity and proximity (i.e. physicalistic parameters) to the exclusion of others. A close friend is someone who lives close by and with whom the self happens to be playing with at the moment. Friendship is more accurately playmateship. Issues such as jealousy or the intrusion of a third party into a play situation are constructed by the child at Stage 0 as specific fights over specific toys or space rather than as fights which involve personal feelings.</td>
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<tr>
<td>4-9 years</td>
<td><strong>Stage 1 - One-way assistance.</strong> Friendship conceptions at Stage 1 are one way in the sense that a friend is seen as important because he or she performs specific activities which the self wants done or accomplished. In other words, one person's attitude is unreflectively set up as a standard, and the friend's actions must match the standard thus formulated. A close friend is someone with more than Stage 0 demographic credentials (e.g., lives close by). A close friend is someone who one knows better than other friends, in terms of one-way knowledge of other's likes and dislikes.</td>
</tr>
<tr>
<td>6-12 years</td>
<td><strong>Stage 2 - Fairweather cooperation.</strong> The advance of Stage 2 friendships over the previous stages is based on the new awareness of interpersonal perspectives as reciprocal. The two-way nature of friendships is exemplified by concerns for coordinating and approximating through adjustment by both self and other, the specific likes and dislikes of self and other, rather than matching one person's actions to the other's fixed standard</td>
</tr>
</tbody>
</table>
Table 1. (continued)

Stages of Friendship.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Stages of Friendship</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-15 years</td>
<td><strong>Stage 3 - Intimate and mutually shared relationships.</strong> At Stage 3 there is the awareness of both a continuity of relation and affective bonding between close friends. The importance of friendship does not rest only upon the fact that the self is bored or lonely as at previous stages; at Stage 3, friendships are seen as a basic means of developing mutual intimacy and mutual support. Friends share personal problems; the occurrence of conflicts between friends does not mean the suspension of the relation itself, because the underlying continuity between the partners transcends specific and minor foul weather incidents. The limitation of Stage 3 arises from the overemphasis of the two person clique, and the possessiveness that arises out of the realization that close relations are difficult to form and to maintain in that they take constant effort.</td>
</tr>
<tr>
<td>12 to adulthood</td>
<td><strong>Stage 4 - Autonomous interdependent friendships.</strong> The interdependence which characterizes Stage 4 is a sense that a friendship continues to grow and be transformed through each partner's ability to synthesize feelings of independence and</td>
</tr>
</tbody>
</table>
Table 1. (continued)

Stages of Friendship.

| Age Range | Dependence. Independence means that each person accepts the other's need to establish relations with others and to grow through such experiences. Dependence reflects the awareness that friends must rely on each other for psychological support, to draw strength from each other, and to gain a sense of self-identification through identification with other as a significant person whose relation to the self is qualitatively distinct from less meaningful relations. |

Each of the domains is comprised of a number of issues or concepts of particular relevance to that domain. Issues related to concepts of the individual include: subjectivity (thoughts, feelings, motives), self-awareness, personality, and personality change. Issues related to concepts of the peer group are: formation, cohesion-loyalty, conformity, rules-norms, decision-making, leadership, and termination. Issues related to parent-child relations include: formation, love and emotional ties, obedience, punishment, and conflict resolution (Selman, 1980). Descriptions of issues relevant to close friendship are presented in Table 2.

To assess a child's stage of reasoning, the child is read a hypothetical story (preschoolers are also shown a filmstrip) about an individual, close friends, a peer group, or parent and child. A semi-structured interview follows in which the child's conceptions of each of the issues relevant to that domain are elicited through a series of standard questions and probes. Questions range from the general to the specific to facilitate the child's expression of his or her optimal level of reflection. For example, within the friendship interview, questions may refer to friendships in general, the friendship in the story, and the child's personal friendships. The logic or reasoning underlying the child's response is then matched to the corresponding conceptual stage.

Selman (1980) and his colleagues (e.g., Selman, Jaquette, & Lavin, 1977; Selman, Schorin, Stone, & Phelps, 1983) have begun to apply the theory within the context of individual child therapy, clinical school settings for children with emotionally based learning problems, and naturalistic settings of normally functioning groups of children. Preliminary reports indicate the application of
Table 2.

Issues in the Friendship Domain

1. Friendship formation. Why (motives) friendships are important and how (mechanism) friendships are made. Characteristics of an ideal person with whom to make friends.

2. Closeness and Intimacy. The various types of friendships, what is an ideal friend, and what factors make for intimacy. Difference between close and "everyday" friends.

3. Trust. What friends do for each other: reciprocity, commitment, obligations.

4. Jealousy. Feelings about intrusions into a new or established relationship; factors that engender jealousy between friends.

5. Conflicts and their resolutions. How friends resolve problems; the meaning of conflict in a friendship; positive as well as negative effects.


the developmental model in these settings may be very useful to clinicians in understanding and enhancing (for example, through psychoeducational techniques such as discussion of personal and hypothetical social dilemmas and playing social cognition games requiring perspective-taking skills) the reflective abilities of children with poor peer relations. Empirically rigorous treatment studies are needed to test the clinical potential of the application of the theory.

The relationship between interpersonal understanding and peer relationships has been examined by Pellegrini (1985) and Selman (1976). Pellegrini examined intercorrelations between two aspects of social cognition—interpersonal understanding and means-ends problem-solving ability—and a number of indices of social competence. These included peer and teacher measures of behavioral competence as well as measures of academic competence and intellectual ability. In a sample of 100 fourth- through seventh-graders, Pellegrini found a positive correlation between interpersonal understanding and peer judgements of positive social behavior and a negative correlation between understanding and peer judgements of isolated social behavior. No relationship was found between interpersonal understanding and peer judgements of disruptive social behavior. As means-ends problem-solving ability was found to be a stronger predictor of social competence than interpersonal understanding, Pellegrini suggested that mature conceptions of interpersonal relationships may be necessary, but not sufficient for competent social behavior.

Selman (1976) and his colleagues (Selman et al., 1977) compared the performance of children with peer relation problems with the performance of
normal children on a number of cognitive and social-cognitive measures. The clinical sample consisted of 24 boys of two age groups (7- to 9-years, and 10- to 12-years) who, because of problems with learning and with peer relations, were placed in special schools. Each of these boys was matched (on variables of chronological age, IQ, sex, social class, and race) with a peer from a public school. Several findings are of particular interest to this discussion. First, consistent with the results obtained in similar studies, Selman found significant differences between the clinical population and the normal population on all social-cognitive measures (perspective taking level, stage of interpersonal relations, and stage of moral reasoning) but not on Piagetian logico-physical measures of cognitive development. Compared with their normal peers, the clinical group of children displayed a developmental lag in their social-cognitive reasoning abilities, but not in their general cognitive ability. This finding is particularly striking in light of subsequent research which has shown that rejected children display a propensity to associate with younger children rather than agemates (Ladd, 1983) and that socially withdrawn children benefited most in a treatment condition matching them with a younger peer versus an agemate (Furman et al., 1979). Secondly, between groups, the normal group of children showed greater synchrony across their scores on cognitive reasoning and social reasoning; the clinical group showed greater desynchrony, lagging further behind on the social reasoning measures. Patterns of synchrony or desynchrony among the clinic children with respect to reasoning about issues within specific interpersonal domains were not reported. However, results from a number of studies examining behavioral and cognitive correlates of social isolation suggest that rejected and neglected children may have particularly immature conceptions of specific issues relevant to friendships. Two studies (Gottman et
al., 1975; Renshaw & Asher, 1983) examined friendship making strategies proposed by popular and unpopular children in response to hypothetical situations. Unpopular children were found to be less knowledgeable about how to make friends, were more likely to offer inappropriate negative strategies, and appeal to authority figures than were popular children. Dodge et al. (1983) observed children's actual peer group entry strategies and found distinctive behavioral patterns among sociometric groups: Rejected and neglected children were less successful in their attempts than were popular children. Moreover, rejected children displayed high rates of disruptive tactics whereas neglected children tended to wait and hover in an effort to join group activities. Other studies have investigated the relationship between sociometric status and conflict resolution. Data show that compared with popular children, rejected children offer more negative strategies of conflict resolution in hypothetical situations (Renshaw & Asher, 1982), and are less skillful in de-escalating or neutralizing negative exchanges with peers (Asarnow, 1983; Gottman & Parkhurst, 1980). The results of these studies suggest that rejected and/or neglected children may experience developmental lags in their understanding of friendship formation and conflict resolution.

Thirdly, Selman found that a high negative peer assessment score was significantly and negatively correlated with interpersonal scores, but was not correlated with perspective taking or cognitive levels. Positive peer assessments were not correlated with any of the reasoning domains. While generally, the clinic group scored lower on social reasoning tasks, this was not true of all those in the clinic group; some of these children did as well as their normal peers. Collectively, Selman suggests these results indicate that children who are
perceived negatively by their peers are likely to have low social-cognitive development, but children with normal or high levels of social-cognitive development may or may not be liked by peers. Mature interpersonal conceptions are necessary but not sufficient for adaptive interpersonal relations.

**Purpose of the Study**

If researchers and clinicians are to be successful in their efforts to help socially isolated children, then further research that is devised within a developmental framework is needed to determine whether there are cognitive/structural and behavioral/performance problems that require separate and/or concurrent treatment (Kendall, 1982). This study had two goals: (a) to clearly differentiate between rejected and neglected isolate children in order to identify the common and unique difficulties experienced by these groups and (b) to contribute to the body of research which attempts to integrate the fields of clinical child psychology and developmental psychology.

Specifically, the purpose of this study was to compare the performance of peer identified rejected and neglected children with the performance of their socially accepted peers using the Friendship Understanding measure of Selman's developmental theory of Interpersonal Understanding. Previous studies reviewed indicate that children with poor peer relations may experience a developmental lag in their social-cognitive abilities; however, none have specifically examined whether rejected and neglected children differ from their socially adjusted peers with respect to their views and understanding of friendship. Findings indicating a lag or delay in development among either or both subgroups of isolated children
would help clarify the kinds of difficulties experienced by these children and ultimately contribute to the development of more effective treatment programs.

Hypotheses

To examine age differences, the performances of children from grade 2 and grade 7 were compared. Elementary school children were chosen in preference to younger or older children because social maladjustment in middle childhood is associated with a number of concurrent difficulties, is predictive of later psychological problems, and often is of concern to parents and teachers of children in this age range, and because the validity of sociometric data with children of this age is better understood than that obtained from younger or older children. Students in grade 2 were chosen as it was reasoned that peer relations and sociometric status would be well established by the second school year. Students in grade 7, the highest grade in elementary schools, were chosen to provide the maximum developmental range for comparison.

It was hypothesized that the older, grade 7 students, would reason at a higher level of understanding than the younger children. Secondly, it was hypothesized that socially rejected and neglected children would perform at a lower level of understanding than their accepted agemates. A sociometric status-by-grade interaction was not expected. In the Selman (1976) study, group-by-age interactions were predicted, based on the assumption of a slower rate of development in disturbed children. The hypothesis that older children would be even further behind their agemates than would younger children with peer difficulties, was not supported. Thirdly, it was hypothesized that compared with
accepted children, rejected and neglected children would experience lags in their understanding of specific friendship issues, most probably friendship formation and conflict resolution.

Predictions concerning the relative performance of rejected versus neglected children were not made because to date there has been little work directly comparing these two groups and because sound theoretical arguments could be made supporting predictions in either direction. For example, if the quantity and quality of social interaction facilitates social-cognitive development and behavioral competence as is generally theorized, it might be argued that neglected children, who hover alone on the sidelines, may experience a greater lag than rejected children, who interact with peers, albeit inappropriately. Conversely, it might be argued that although neglected children do not actively engage in interactions, they may acquire social knowledge and skill by vicarious learning through observation of peers modeling effective interaction skills, and thus could be expected to perform at a higher conceptual level than their peers. For these reasons, the study was viewed as exploratory of the relative performance of the two groups of isolates.

Hypotheses regarding sex differences were also not offered as it was expected that the groups formed according to sociometric status within grade would contain unequal and relatively small sub-samples of boys and girls, which would prohibit meaningful analyses.
Method

Overview of Method

Approval for the project was received from the school board, principals, and teachers. A sociometric nomination exercise was conducted in second- and seventh-grade classes. Based on the peer nominations, children were classified as either accepted, rejected, or neglected. All rejected and neglected children, and a subsample of accepted children, were interviewed individually. Selman's (1979) Friendship Understanding Interview was used to assess one aspect of social-cognitive development, conceptions of interpersonal role relations. The Vocabulary and Block Design subtests of the Wechsler Intelligence Scale for Children - Revised (Wechsler, 1974) were used to estimate general intellectual ability.

Subjects

Participants were 35 (15F, 20M) second-grade and 42 (26F, 16M) seventh-grade children selected from five second-grade (n = 27, 25, 22, 25, 27) and four seventh-grade (n = 34, 33, 30, 36) classes from five schools in a metropolitan west coast city. The data from six subjects was discarded because of equipment failure (two grade seven students, one female and one male) and because of nonresponsiveness to interview questions (four grade two students: two 'neglected' children, both males, and two 'accepted' children, one female and one male) which left a total sample of 31 second-grade and 40 seventh-grade children. The mean age of the second-graders was 7-10, range 7-0 to 9-1 and the
mean age of the seventh-graders was 13-6, range 12-0 to 14-3. Within this sample, 71% of the children were Caucasian, 21% were Oriental and 8% were East Indian.

The participants, recruited from a larger sample of 126 second-graders and 133 seventh-graders, had received written parental consent (Appendix A) to participate in the study and met selection criteria based on a peer sociometric measure, as described below. Beck, Collins, Overholser, and Terry (1984) recently reported that children who did not receive parental consent to participate in their research examining social competence, were more likely to be viewed by teachers as having unsatisfactory peer relationships than children who participated in the study. Consequently, these authors have urged investigators to report the proportion of children denied permission and if possible, assess if these children differ from participating subjects. In the present study, 82% of the original sample received permission to participate in the study; 12% failed to return their consent forms, 6% were denied permission. Of the sub-sample for which sociometric measures were taken, 86% received permission, 9% failed to return their consent form; 5% were denied permission. However, in this sample, unlike the Beck et al. (1984) sample, there was no significant relationship between sociometric status and permission to participate; children, judged by peers to have unsatisfactory peer relations, were equally likely to participate as those children with satisfactory relations. Thus it was concluded that the rejected and neglected children who participated in the study represented an unbiased subsample with respect to sociometric status.
Measures

Social Competence: Sociometric Nominations

A peer sociometric nomination measure provided an assessment of social competence. Peer nominations are the recommended procedure when the investigation is concerned with children's friendships and when a distinction between rejected and neglected children is to be made (Asher & Hymel, 1981). For these reasons, peer nominations were chosen in preference to peer ratings (an index of overall peer acceptability, but not of peer friendships) and the Bower Class Play Measure (peer perceptions of general social competence). Peer nominations were also chosen in preference to teacher assessment measures as these measures tend to be less powerful in discriminating subgroups of socially isolated children.

Reliability of peer sociometric methods is evaluated in terms of internal consistency (the amount of agreement among the assessors) and stability (the similarity between measures taken at two points in time). Internal consistency of peer nominations across a number of studies has been reported as .89 (Kane & Lawler, 1978). Test-retest reliability for positive nominations ranges from .65 to .84 over a 6- to 12-week period (Busk, Ford, & Schulman, 1973; Coie et al., 1982; Connolly, 1983).

Validity is evaluated in terms of concurrent and predictive criterion validity. Concurrent validity has been established by comparing peer nominations with teacher judgements and behavioral observations of peer
interaction (Connolly, 1983; Gottman et al., 1975; Green et al., 1980). Evidence for the predictive validity of peer nominations has been provided by longitudinal mental health studies (see French & Tyne, 1982, review) and by leadership studies with military groups (see Kane & Lawler, 1978, review).

Although the reliability and validity of sociometric measures are considered to be good, these properties may be undermined in certain conditions. For example, Kane and Lawler (1978) point out that the number of children in a group and the number of selections to be made will affect scores. If the number of nominees is held constant across groups of varying size, children from smaller groups will obtain more extreme scores than children from larger groups. Scores are also affected when less than 100% of group members participate in the nominations. In this situation, the number of popular and rejected children may be underestimated whereas the number of neglected children may be overestimated. A third source of variability in scoring stems from the variety of cut-off scores used across studies to classify children as popular, average, rejected, or neglected. In practise, each researcher selects his or her own classification criteria. Consequently, a child could be identified as either average or rejected, for example, depending on the classification criteria chosen by the investigator.

A number of these scoring problems are addressed by procedures developed by Newcomb and Bukowski (1983). They propose the use of a two-dimensional probability model for the determination of sociometric status with positive and negative nomination data. A binomial distribution is applied to raw scores to identify rare (i.e., not expected by chance) scores on a preference
dimension (likeability as reflected by positive vs. negative nominations) and on an impact dimension (visibility within a group as reflected by total number of nominations). On the basis of the size of the nominating group and the number of selections to be made, children can be assigned according to their scores, to one of five independent and exhaustive groups: popular, average, rejected, neglected, or controversial. (Controversial children are those children who receive a high number of both positive and negative nominations). The reliability and validity of these procedures were compared with two other two-dimensional sociometric models (Coie et al., 1982; Peery, 1979). In terms of consistency and validity of classification, the probability method was found to be particularly strong in classifying rejected and neglected children relative to the other models. None of the methods was successful in reliably identifying controversial children, a category which may have limited validity.

Classification and Scoring Criteria. The children's sociometric status was determined according to the procedures and criteria outlined by Newcomb and Bukowski (1983, and A. Newcomb, personal communication, October 25, 1984). Criteria for group assignment are given in Tables 3 and 4. Peer nominations were solicited for same-sex classmates. Sociometric measures were not taken in classes where (a) there were less than eight same-sex group members or (b) less than 75% of same-sex group members participated in the nominations. The girls from one grade 2 class failed to meet criteria (a) and the boys from one grade 2 class and one grade 7 class failed to meet criteria (b).
Table 3.
Sociometric Status Classification Criteria

<table>
<thead>
<tr>
<th>Status</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popular status:</td>
<td>a rare liked score (sum of positive nominations) and a disliked score (sum of negative nominations) below the mean;</td>
</tr>
<tr>
<td>Average Status:</td>
<td>a chance impact score (total number of nominations) and a less than rare number of liked and disliked nominations;</td>
</tr>
<tr>
<td>Rejected Status:</td>
<td>a rare disliked score and a liked score below the mean;</td>
</tr>
<tr>
<td>Neglected Status:</td>
<td>lower than chance impact score, in the case where 100% of group members participated in the nominations; or</td>
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<tr>
<td></td>
<td>a maximum of 2 nominations (range -2 to +2), in the case where less than 100% but more than 75% of the children in a group of nine or more participated; or,</td>
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<tr>
<td></td>
<td>a maximum of 1 nomination (range -1 to +1) in the case where less than 100% but more than 75% of the children in a group of eight participated.</td>
</tr>
</tbody>
</table>

Note. Adapted from Social impact and social preference as determinants of children's peer group status by A. Newcomb and W. Bukowski. *Developmental Psychology*, 1983, **19**, 856-867.
Table 4.
Criteria for Rare Like/Disliked and Impact Scores

<table>
<thead>
<tr>
<th>Group Size</th>
<th>Liked/Disliked Raw Score</th>
<th>Impact Raw Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-12</td>
<td>≥ 6</td>
<td>≤ 4</td>
</tr>
<tr>
<td>13-15</td>
<td>≥ 7</td>
<td>≤ 3</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>≤ 2</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Rare scores based on six selections per nominator, three positive and three negative, p=.05.

Intellectual Ability: WISC-R

The Vocabulary and Block Design subtests of the Wechsler Intelligence Scale for Children - Revised (WISC-R) were administered to estimate intellectual ability (Wechsler, 1974). This two subtest combination is a popular short form of the WISC-R as these two tests are good measures of general intelligence, have consistently high reliabilities (Sattler, 1982) and because the combined score for these subtests show a higher correlation with Full Scale IQ ($r = .88$) than any other pair of subtests (Silverstein, 1975). Reliability data reported for the Vocabulary and Block Design subtests are as follows (Wechsler, 1974):

(a) internal consistency, $r = .86$ and .85 respectively
(b) stability, $r = .68$ to .89, and $r = .78$ to .86 respectively.

As the Friendship Interview, the dependent measure in this study, assesses abstract social reasoning, and as its administration draws upon verbal skills (receptive and expressive ability), the Block Design and Vocabulary subtests were particularly appropriate for the purposes of this study. The Block Design subtest involves analysis and synthesis of physical-spatial relationships (Sattler, 1982) which was useful in allowing a comparison of the children's conceptual reasoning ability of a logico-physical nature with conceptual ability of a social nature. The Vocabulary Subtest, a test of word knowledge, which involves cognitive functions such as learning ability, memory, concept formation and language development (Sattler, 1982) served to provide a check that the variance in children's understanding of friendship was not due to differences in verbal skills.
Social Cognition: Interpersonal Understanding

The Friendship Interview, from Selman's (1980) Interpersonal Understanding measure, was used to assess the level of social cognitive maturity characterizing the children's conceptions of issues relevant to friendship.

Selman and his colleagues at the Harvard-Judge Baker Social Reasoning Project continue to assess the reliability and validity of their theoretical model and its practical application (refer to Selman, 1980, for a complete discussion of reliability and validity issues). Reliability of scoring procedures has been assessed in terms of interrater reliability, intrarater reliability, test-retest reliability and alternate form reliability. The following data, based on the Interpersonal Understandings Maturity Score (IMS), an overall quantitative score computed by averaging all issues scores from all interpersonal domains, has been reported by Selman (1980):

(a) Interrater Reliability

i. between two expert scorers, $r = .96$

ii. between expert scorers and three individuals trained only through reading the manual, $r = .92$

iii. between expert scorers and three workshop trained scorers, $r = .94$

(b) Intrarater Reliability
between original score and a blind rescoring six months later, $r = .91$.

(c) Test-Retest Reliability

Estimates range from .51 after a 2-month interval to .92 after a 5.5-month interval.

(d) Alternate Form Reliability

$r = .88$.

To assess the extent to which the interview procedures are resistant to interviewer bias (inadvertent pulling for higher stage answers), checks were conducted in which interviewer techniques with experimental groups were compared with control groups; no quantitative (number of questions/probes asked) differences or qualitative (ratings by independent judges to "leading" subjects to higher level answers) differences were found in the behaviour of the interviewers across the two groups.

The construct validity of the model has been evaluated in a series of studies. Results of five sets of preliminary validation analyses

(a) suggest a synchrony of structured wholeness within systems (such as interpersonal understanding) and across systems (the relationship among cognitive developmental levels, perspective-taking levels, and interpersonal stages).
(b) indicate a relationship between interpersonal understanding and various demographic variables such as age (evidence suggests a steady linear development of understanding); social class (young working class children generally express lower levels of understanding until about age 11 at which time their understanding develops to match that of their middle class peers); and sex (young girls, ages 5 to 7, show a tendency to express higher levels of understanding than boys. This trend is not evident beyond this age group). Differences in interpersonal understanding by race have not been found.

(c) indicate on the basis of longitudinal data that progression through stages occur in an invariant sequence,

(d) show that differences between specific groups expected to function at higher or lower levels of understanding than the general population do occur, according to available clinical-comparative test data, and

(e) indicate a relationship between interpersonal understanding and behavior (teacher ratings of behavioral strengths were significantly and positively correlated with interpersonal understanding scores).

**Scoring Method.** Average issue scores and global stage scores were computed according to a standard method, the issuing procedure, developed by Selman (1979). Any codeable response about one of the six friendship issues given in response to an initial issue-oriented question or to subsequent follow-up probes is assigned an issue-concept stage score representing the level of
interpersonal conception it captures. Based on a weighted composite of issue-concept scores, each issue is assigned a stage score that can be either a pure stage level (e.g., level 2) or a transitional stage level (e.g., 2(1), 2 is the major score and 1 is the minor score). A quantitative score, the Friendship Understanding Score (FUS), is computed by weighting and averaging the issue scores to obtain a total level score. For example, in the friendship interview, issue scores of formation 3(2), closeness and intimacy 3, trust 3, jealousy 3, conflict resolution 3(2), and termination 2 would be weighted (major scores receive two-thirds weight and minor scores receive a one-third weight) and averaged into a quantitative score of 2.72. This numerical score can be converted into a descriptive level score (in this example 3(2)), referred to as a global-level score.

The interview protocols were scored by the principal investigator who was blind to the subjects' grade level and sociometric status. To assess interrater reliability, a random subset of 28% (20) protocols was scored independently by a second rater (trained by reading the manual), not otherwise involved in the study.

Interviewers

The interviews were conducted by four female senior undergraduate students in psychology; two of the interviewers were Caucasian, one was East Indian and one was Oriental. The interviewers were blind to the children's sociometric status and were ignorant of the purpose and specific hypotheses of the study until all data had been collected. The interviewers were crossed with the conditions of grade and sociometric status: Three interviewers tested
children from one grade 2 and one grade 7 class, one interviewer tested the children from two grade 2 classes and one grade 7 class. Thus, with the exception of the latter interviewer, the interviewers tested approximately the same numbers of children in each grade and sociometric group.

The interviewers received approximately 20 hours of training over a six week period. The training, conducted by the principal investigator, consisted of: (a) didactic instruction in the theory of the development of interpersonal understanding, in conceptions of friendship understanding for each issue at each stage, and in conducting friendship interviews and scoring of test protocols; (b) modeling of a friendship interview by the principal investigator and a volunteer child; (c) roleplay of the interview with another team member; (d) two practice interviews (per interviewer) with volunteer children; (e) observation of practice interviews conducted by other team members; (f) feedback and discussion of procedures and skills following practice interviews; and (g) independent scoring of practice interview protocols followed by group discussion and feedback of appropriate probing. Throughout data collection, the principal investigator periodically reviewed interview tapes and provided feedback to each interviewer. Subsequent to data collection, checks were conducted on two interviewing skills: probing skill and warmth. The number of times per interview that the interviewer failed to appropriately probe (as judged by the principal investigator) an incomplete response given by a subject provided a measure of probing skill. The average number of positive reinforcements (e.g. "That was a good answer", "Okay") expressed by the interviewer to the child during the course of the interview provided a measure of interviewer warmth. These two skills were chosen as it was reasoned that
failure to adequately probe the children's responses could undermine the reliability and validity of the test scores as could differences among the interviewers with respect to their warmth and ability to help the children relax and respond to the best of their ability.

The interviewers received similar, though less comprehensive, instruction and practice in administering the Vocabulary and Block Design subtests of the WISC-R. Training consisted of (a) didactic instruction in administering the subtests; (b) modeling of test administration; (c) practice in administering the tests with another team member and with a volunteer child; and (d) feedback following practice sessions.

Procedure

Project Approval

Following project approval from the university research ethics committee, an application to conduct the research was submitted to the Board of a local school district. The project was reviewed and approved by the appropriate Board committee. Over a period of several months, this committee introduced the project to school principals. The principal investigator met with those principals who expressed an interest in the project to describe the project in detail and answer any questions. The principals in turn canvassed their grade 2 and 7 teachers. The principal investigator then met with each teacher to describe the purpose of the project and the procedure. All principals and teachers contacted at this stage of the process willingly agreed to allow their
students to participate in the study. In return for their participation, the results of the class sociometric exercise were reviewed with the respective classroom teachers and principals and teachers received a summary report of the study's findings. At the Board's suggestion, a presentation on friendship for participating classes was offered as well. Several teachers took advantage of this offer on behalf of their classes. Presentations were conducted approximately two weeks following the completion of data collection.

**Sociometric Nominations**

The sociometric nominations, conducted by the principal investigator, were administered as a class exercise either in April of the spring term (two grade 7 classes; one grade 2 class) or in November of the fall term of the next academic year (two grade 7 classes; four grade 2 classes) depending on when classes were allotted to the project by school personnel. Following an introduction to the project, including an explanation of the confidential nature of the exercise and a standard set of instructions (Appendix B), the children were given a printed roster of the first name and surname initial of their same-sex classmates, listed in two columns. Same-sex peer nominations are recommended and typically used by most researchers (Asher & Hymel, 1981) as elementary school children's primary group membership usually consists of same-sex peers and it has been found that for this age-group, cross-sex nominations often exhibit a strong bias against opposite sex peers (Hallinan, 1981; Moreno, 1938; Roff et al., 1972). Names on the roster were listed in alphabetical order (by surname initial) to simplify the exercise for grade 2 students, some of whom possess rudimentary reading skills. It was reasoned that as alphabetical listings are
frequently used in the school setting, this ordering of names would enable the children to find their preferred sociometric choices more easily than would a random ordering of names. In accordance with standard sociometric procedures (Connolly, 1983; Newcombe & Bukowski, 1983) the children first nominated three liked peers, then from a second, identical roster, nominated three disliked peers. The exercise took approximately 15 minutes.

Those children who were identified by their peers as rejected or neglected, and who had received parental consent to participate in the study, served as two groups of subjects. The third group of subjects consisted of children who were identified by their peers as average or popular (4 of the 24 group members) and who had received parental consent to participate. Average and popular children were included in one group for two reasons. First, the purpose of the study was to compare socially unaccepted children, who have poor peer relations, with socially accepted children, who have normal peer relations. Average and popular children were thought to meet this criteria. Second, the proportion of children identified as popular by the Newcomb and Bukowski (1983) classification system is very low. The proportion of popular children in three sample populations \((n = 334, 173, \text{ and } 89)\) ranged from 2.3 to 6.3 percent. Based on this data, it was predicted that the total sample available to this investigation would not include sufficient numbers of popular children to satisfy design requirements. This prediction was in fact born out. Of the total sample of 222 children, a mere 3% were identified as popular. Therefore, it was decided to include both average and popular children in the normal comparison group.

It is believed that grouping the popular- and average-status children would
not result in a comparison group that differed significantly from comparison groups used in other studies. For example, the normal children who served as the comparison group by Selman (1976) were children who were identified by teachers as not having severe interpersonal problems. Presumably, this sample included both popular and average children. Also, recall that investigators who have used sociometric measures have used a variety of arbitrary cut-off points to distinguish between popular- and average-status children. Since there is no standard cut-off point to discriminate these groups, it would be more accurate to think of experimental comparison groups as consisting of children whose status ranges from average to popular, rather than describe these groups as consisting of either popular or average children, as is done.

**Interviews**

The interviews, conducted individually two to four weeks following the sociometric testing, took place in a small private room in each school during regular school hours. The interviews averaged 45 minutes. Within limitations imposed by class schedules and teacher preferences, the order of grade 2 and grade 7 interviews was counterbalanced across interviewers (i.e., when interviewer A was testing grade 2 students, interviewer B was testing grade 7 students).

The Friendship Understanding interview was conducted according to procedures and guidelines (Appendix C) outlined by Selman (1979). To summarize these procedures, the child was read a hypothetical story about two friends; boys were read a story with male characters and girls were read a story with female
characters (Appendix D). The story was reread upon request or if the child appeared confused. The story was followed by a series of standard questions and probes (Appendix E). Questions and responses were audiotaped for later transcription and scoring. In order to check the accuracy of transcription, a random subset of 20 protocols was checked by a second reviewer and judged to be accurately transcribed.

The Friendship Understandings Interview was followed by the administration of the Block Design and Vocabulary subtests of the WISC-R according to test procedures outlined in the manual (Wechsler, 1974).
Results

Outcome of Sociometric Nominations

distribution of status groups. In the second grade (n = 108), 74% of the children were classified as accepted (includes "popular" and "average" children), 14% as rejected, and 12% as neglected. In the seventh grade (n = 114), 74% of the children were classified as accepted, 11% as rejected, and 15% as neglected. Sociometric scores were not available for 37 of the 259 students in the total sample because the nominating groups to which the children belonged did not meet minimum criteria for sociometric assessment (see Classification and Scoring Criteria, p. 39).

To provide a check that sociometric status scores were not influenced by the alphabetical ordering of nominees' names, Fisher exact tests of significance were used to test the independence of sociometric status and listing order (nominee's name listed in the first, second, third, or fourth quarter of the roster). Separate tests, conducted for each of the nine classes, were non-significant, p = .13 to .98, suggesting that sociometric classifications were not due to order effects. As in subsequent analyses, Fisher exact tests of significance were chosen in preference to chi-square analyses because of small (less than 5) expected cell frequencies which hamper meaningful interpretation of the chi-square test (Ferguson, 1976; Freeman & Halton, 1951). Tests of significance were conducted for each class as nonsignificant test results from an analysis of total sample data could disguise significant differences within classes.
Relationship Between Status and Gender; Status and Race. Fisher exact tests of significance were also used to test the relationship between status and gender, and status and race. With respect to status and gender, separate tests conducted for each of six classes (those classes in which both boys and girls participated in the project), were non-significant, $p = .21$ to .79. A test of the combined distribution of the six classes was also non-significant, $p = .23$. With respect to status and race, separate tests conducted for each of the six classes were also non-significant, $p = .10$ to .96 as was a test of the combined distribution of the six classes, $p = .38$. The results from these analyses indicate that boys and girls, and non-Caucasian children were not disproportionately nominated as rejected or neglected by their peers.

Relationship Between Status and Participation. The number of children who did and did not receive parental consent is given in Table 5. Separate Fisher exact tests of significance conducted for grade 2 and 7 were non-significant, $p = .71$ and .10 respectively, indicating that accepted, rejected, and neglected children were not differentially denied permission to participate.

The number of subjects for which data were collected within each group is given in Table 6. Analyses of sex differences with respect to major hypotheses were not conducted because of the small cell sizes and unequal numbers of boys and girls within each group.
Table 5.
Breakdown of Parental Consent by Grade and Sociometric Status

<table>
<thead>
<tr>
<th>Participation</th>
<th>Accepted</th>
<th>Rejected</th>
<th>Neglected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consent</td>
<td>67</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>No Consent(^a)</td>
<td>13</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Grade 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consent</td>
<td>75</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>No Consent(^a)</td>
<td>9</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

\(^a\) Includes cases in which consent was denied or consent form was not returned.
Table 6.

Group n's by Grade and Sociometric Status.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Sociometric Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accepted</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>(Boys, Girls)</td>
<td>(5,5)</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>(Boys, Girls)</td>
<td>(6,8)</td>
</tr>
</tbody>
</table>
Primary Analyses

The major sets of analyses were conducted using two-way fixed factors univariate and multivariate analyses of variance. As groups contained unequal numbers of observations, a complete least squares solution was chosen in which a regression approach was used in the calculation of sums of squares. The effect of the complete least squares approach is to estimate the independent effect of each factor adjusted for its relationship with all other factors (Overall & Spiegel, 1969). This approach was chosen in preference to an unweighted means analyses because the differential cell frequencies were inherent to the natural distribution of the classification variable (sociometric status) in the population rather than the result of experimental artifact (Overall & Spiegel, 1969).

Relationship Between Grade, Sociometric Status, and IQ

The first set of major analyses examined the relationship between the independent classification variables (grade and sociometric status) and the measures of intellectual ability (scores from the Block Design and Vocabulary subtests of the WISC-R, analyzed as separate test scores and as a combined score to estimate Full Scale IQ). Differences among the classification groups on Block Design, Vocabulary, and IQ were tested using separate two way, 2 (grade) x 3 (status), analyses of variance. Means and standard deviations are presented in Table 7. Bartlett-Box F tests of homogeneity of variance were non-significant for Block Design, $F (5,5088) = .86, p = .51$, Vocabulary, $F (5,5088) = 1.31, p = .26$, and IQ scores, $F (5,5088) = 1.98, p = .08$. 
Table 7.
Mean Block Design, Vocabulary, and IQ Scores by Grade and Sociometric Status.

<table>
<thead>
<tr>
<th>Sociometric Status</th>
<th>Grade</th>
<th>Accepted</th>
<th>Rejected</th>
<th>Neglected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>14.30</td>
<td>11.17</td>
<td>13.33</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.27</td>
<td>3.35</td>
<td>4.42</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>10.71</td>
<td>10.58</td>
<td>11.36</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.52</td>
<td>2.35</td>
<td>2.79</td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>11.00</td>
<td>9.50</td>
<td>9.00</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>3.59</td>
<td>3.29</td>
<td>4.47</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>9.29</td>
<td>9.50</td>
<td>8.64</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.30</td>
<td>2.68</td>
<td>2.47</td>
</tr>
<tr>
<td>IQ</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>M</td>
<td>115.50</td>
<td>101.83</td>
<td>106.56</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>14.65</td>
<td>16.43</td>
<td>23.74</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>99.93</td>
<td>100.25</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>15.68</td>
<td>9.33</td>
<td>11.35</td>
</tr>
</tbody>
</table>
The analyses of variance yielded a significant main effect for grade on Block Design, $F(1,65) = 6.74, p = .01$, and IQ scores, $F(1,65) = 4.61, p = .04$. There was no significant main effect for sociometric status on Block Design, Vocabulary, or IQ scores; nor were there any significant interaction effects. There were no significant main effects for grade or sociometric status, nor were there any significant interaction effects on the Vocabulary scores. Separate analyses of variance summary tables for Block Design, Vocabulary, and IQ are given in Table 8. The results of these analyses indicated that there is no difference among accepted, rejected, and neglected children on word knowledge (vocabulary) at either grade 2 or 7. There is no difference among accepted, rejected, and neglected children with respect to reasoning ability (Block Design); however, as a group, grade 2 students scored higher than grade 7 students. Finally, there is no difference among accepted, rejected, and neglected children with respect to IQ, however, as a group, grade 2 students had a higher IQ ($M = 107.96$) than Grade 7 students ($M = 100.05$). Given no differences were found among the three sociometric status groups on any of the intelligence measures, and given the difference in IQ scores between grade 2 and 7 students are not clinically significant (means for both groups fall within average IQ range, $M = 100, SD = 15$) despite the statistical significance, intellectual ability measures were not included as covariates in subsequent analyses examining group differences on Friendship Understanding scores.

**Relationship Between Friendship Understanding and IQ.** Pearson product moment correlations indicated a significant and moderately high correlation between Friendship Understanding Score (FUS) and IQ, $r(28) = .44, p < .02$ for grade 2 data. There was no correlation between FUS and IQ, $r(37) = .29, p < .10$.
Table 8.
ANOVA Summary Tables for Block Design, Vocabulary, and IQ

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Block Design</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>72.53</td>
<td>1</td>
<td>72.53</td>
<td>6.74</td>
<td>.01</td>
</tr>
<tr>
<td>Status</td>
<td>38.15</td>
<td>2</td>
<td>19.08</td>
<td>1.77457</td>
<td>.18</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>26.69</td>
<td>2</td>
<td>13.34</td>
<td>1.24</td>
<td>.30</td>
</tr>
<tr>
<td>Within Cells</td>
<td>698.75</td>
<td>65</td>
<td>10.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>8.24</td>
<td>1</td>
<td>8.24</td>
<td>.86</td>
<td>.36</td>
</tr>
<tr>
<td>Status</td>
<td>19.73</td>
<td>2</td>
<td>9.87</td>
<td>1.03</td>
<td>.36</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>9.58</td>
<td>2</td>
<td>4.79</td>
<td>.50</td>
<td>.61</td>
</tr>
<tr>
<td>Within Cells</td>
<td>622.07</td>
<td>65</td>
<td>9.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>1079.80</td>
<td>1</td>
<td>1079.80</td>
<td>4.61</td>
<td>.04</td>
</tr>
<tr>
<td>Status</td>
<td>543.38</td>
<td>2</td>
<td>271.69</td>
<td>1.16</td>
<td>.32</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>592.58</td>
<td>2</td>
<td>296.29</td>
<td>1.26</td>
<td>.29</td>
</tr>
<tr>
<td>Within Cells</td>
<td>15237.57</td>
<td>65</td>
<td>234.42</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
for grade 7 data. Recall that grade 2 students had a significantly higher IQ than grade 7 students. A test of the correlation between FUS and IQ for grade 2 and 7 combined was not conducted because the resulting distribution violates the bivariate normal distribution assumption underlying correlational tests.

Relationship Between Grade, Sociometric Status and Friendship Understanding.

The second set of major analyses examined the relationship between grade and status with respect to conceptual level of friendship understanding. A 2 (grade) x 3 (status) analysis of variance was used to test for differences on FU scores. Group means and standard deviations are presented in Table 9. A Bartlett-Box F test indicated homogeneity of variances, \( F(5,5088) = 1.96, p = .08 \). The analysis of variance yielded a significant main effect for grade, \( F(1,65) = 70.68, p < .001 \). The main effect for sociometric status and interaction effects were not significant. The results supported the predicted hypothesis that grade 7 children would score at a developmentally higher level of friendship understanding than grade 2 children, however the results did not support the predicted hypothesis that rejected and neglected children would display a developmental lag in their friendship understanding compared with accepted children.

With respect to range of global stages expressed in response to friendship issues, a 2 (grade) x 3 (status) analysis of variance indicated no significant main effects for grade (\( M = 1.81, SD = .47 \) and \( M = 1.88, SD = .67 \) for grade 2 and 7 respectively) or status (\( M = 1.88, SD = .42; \ M = 1.92, SD = .56; \ M = 1.74, SD = \)
Table 9.
Mean Friendship Understanding Scores by Grade and Sociometric Status.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Sociometric Status</th>
<th>Accepted</th>
<th>Rejected</th>
<th>Neglected</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>M</td>
<td>1.51</td>
<td>1.57</td>
<td>1.57</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.37</td>
<td>.20</td>
<td>.42</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>2.38</td>
<td>2.44</td>
<td>2.40</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.53</td>
<td>.45</td>
<td>.46</td>
</tr>
</tbody>
</table>
.74 for accepted, rejected and neglected status, respectively) or significant interaction effect. Separate analysis of variance summary tables for FU scores and range of stage scores are given in Table 10.

Checks on Interviewer Behavior. Two preliminary analyses were conducted to provide a check that FU scores were not confounded by differences in interviewing skills among the four interviewers. Separate one-way analyses of variances were conducted on two measures: the number of times per interview that the interviewer failed to appropriately probe an unscoreable or ambiguous response given by a subject and the average number of positive reinforcements expressed by the interviewer to the child during the course of the interview. These analyses were conducted on a random subset of 12 test protocols per interviewer. The results indicated there were no significant differences among the four interviewers with respect to adequate probing, $F(3, 44) = .12, p > .05$ or positive reinforcements given, $F(3, 44) = 1.48, p > .05$. Separate analysis of variance summary tables are given in Table 11.

Interscorer Reliability. Interscorer reliabilities of Friendship Understanding test protocols were satisfactory. The Pearson Product Moment correlation between FU scores assigned independently by two scorers on a random subset of 20 interviews was .92 which falls within the .87 to .97 range for correlation of Interpersonal Understanding Scores (the average of issue scores across all interpersonal domains (i.e., individual, friendship, group, parent-child) reported in a number of studies (Gurucharri, Phelps, & Selman, 1984). For global stage scores (using major/minor stage differentiations, e.g., 3(2)), interscorer
Table 10.
ANOVA Summary Tables for Friendship Understanding and Range of Reasoning

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendship Understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>12.80</td>
<td>1</td>
<td>12.80</td>
<td>70.69</td>
<td>.001</td>
</tr>
<tr>
<td>Status</td>
<td>.05</td>
<td>2</td>
<td>.02</td>
<td>.13</td>
<td>.88</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>.01</td>
<td>2</td>
<td>.00</td>
<td>.02</td>
<td>.98</td>
</tr>
<tr>
<td>Within Cells</td>
<td>11.78</td>
<td>65</td>
<td>.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of Understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>.10</td>
<td>1</td>
<td>.10</td>
<td>.27</td>
<td>.61</td>
</tr>
<tr>
<td>Status</td>
<td>.36</td>
<td>2</td>
<td>.18</td>
<td>.49</td>
<td>.61</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>.59</td>
<td>2</td>
<td>.29</td>
<td>.79</td>
<td>.46</td>
</tr>
<tr>
<td>Within Cells</td>
<td>24.19</td>
<td>65</td>
<td>.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11.
ANOVA Summary Tables for Probes and Positive Reinforcement

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Interviewers</td>
<td>.56</td>
<td>3</td>
<td>.19</td>
<td>.12</td>
<td>p &gt; .05</td>
</tr>
<tr>
<td>Within Interviewers</td>
<td>66.88</td>
<td>44</td>
<td>1.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>67.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive Reinforcements</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Interviewers</td>
<td>.05</td>
<td>3</td>
<td>.01</td>
<td>1.48</td>
<td>p &gt; .05</td>
</tr>
<tr>
<td>Within Interviewers</td>
<td>.51</td>
<td>44</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
agreement within 1 point (major/minor scores range from 0, 0(1), 1(0), 2(1) to 4(3), 4 on a 13 point scale) was 89%.

**Relationship Between Grade, Sociometric Status, and Six Friendship Issues**

The final set of major analyses examined the relationship between grade and status with respect to group conceptions of the six friendship issues: friendship formation, closeness and intimacy, trust and reciprocity, jealousy, conflict resolution and friendship termination. The six friendship issues are highly and significantly correlated with each other and with the overall FU score (the correlation matrix for these seven variables is given in Table 12). Scores on the six friendship issues were subjected to a 2 (grade) x 3 (status) multivariate analysis of variance. Data from seven subjects (1 rejected and 2 neglected seventh grade students and 2 accepted, 1 rejected and 1 neglected second-grade students) were not included in the analysis because of missing data. These subjects failed to give scoreable responses to one or two of the friendship issues. Subsequent cell sizes for accepted, rejected, and neglected children were 8, 11, and 8 for grade 2 and 14, 11, and 12 for grade 7. Means and standard deviations by grade and status for each of the six friendship issues are given in Table 13.

The Box-M test of homogeneity of variance was significant, $F(105, 3980) = 1.35, p = .01$. When a significant Box-M indicates heterogenous variances across groups, interpretations of significant interactions cannot be made as such interactions involve comparisons among cells of substantially different sizes; however, interpretation of main effects is still considered feasible (Winer, 1971). Given the outcome of the analysis, problems of interpretation were not encountered.
### Table 12.

Intercorrelations between Friendship Understanding Scores (FUS) and Friendship Issue Scores.

<table>
<thead>
<tr>
<th></th>
<th>FUS</th>
<th>Formation</th>
<th>Closeness</th>
<th>Trust</th>
<th>Jealousy</th>
<th>Conflict</th>
<th>Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formation</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness</td>
<td>.86</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>.83</td>
<td>.65</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jealousy</td>
<td>.60</td>
<td>.39</td>
<td>.37</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>.75</td>
<td>.53</td>
<td>.64</td>
<td>.52</td>
<td>.24*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Termination</td>
<td>.76</td>
<td>.66</td>
<td>.50</td>
<td>.52</td>
<td>.56</td>
<td>.51</td>
<td></td>
</tr>
</tbody>
</table>

* * p < .05. All other coefficients, p < .001.
Table 13.
Mean Friendship Issue Scores by Grade and Sociometric Status.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Sociometric Status</th>
<th>Accepted</th>
<th>Rejected</th>
<th>Neglected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Friendship Formations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>1.33</td>
<td>1.21</td>
<td>1.46</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.40</td>
<td>.34</td>
<td>.53</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>2.14</td>
<td>2.06</td>
<td>2.45</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.63</td>
<td>.66</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closeness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>1.71</td>
<td>1.67</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.70</td>
<td>.70</td>
<td>.50</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>2.36</td>
<td>2.46</td>
<td>2.81</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.56</td>
<td>.62</td>
<td>.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>1.58</td>
<td>1.70</td>
<td>1.58</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.56</td>
<td>.35</td>
<td>.55</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>2.21</td>
<td>2.36</td>
<td>2.25</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.46</td>
<td>.69</td>
<td>.51</td>
</tr>
</tbody>
</table>
Table 13. (continued)

Mean Friendship Issue Scores by Grade and Sociometric Status.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Sociometric Status</th>
<th>Accepted</th>
<th>Rejected</th>
<th>Neglected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jealousy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>1.96</td>
<td>1.91</td>
<td>1.88</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.56</td>
<td>.30</td>
<td>.35</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>2.60</td>
<td>2.67</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.49</td>
<td>.58</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Conflict</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>1.71</td>
<td>1.36</td>
<td>1.42</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.70</td>
<td>.99</td>
<td>.94</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>2.60</td>
<td>2.51</td>
<td>2.75</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.54</td>
<td>.60</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Termination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>1.17</td>
<td>1.55</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.36</td>
<td>.48</td>
<td>.46</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>2.83</td>
<td>2.67</td>
<td>2.53</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.77</td>
<td>.65</td>
<td>.75</td>
</tr>
</tbody>
</table>
Results from the multivariate analysis yielded a significant main effect for grade on each of the six friendship issues. There were no significant status or interaction effects. The multivariate analysis of variance summary table, and the univariate analysis of variance summary table for the main effect of grade on the six friendship issues, are given in Tables 14 and 15, respectively. Results of this analysis supported the prediction that grade 7 subjects would score at a developmentally higher level of friendship understanding than grade 2 subjects but failed to support the prediction that rejected and neglected children would display a developmental lag in their understanding of specific friendship issues, such as formation and conflict resolution, compared with accepted children.
Table 14.
MANOVA Summary Table for Friendship Issue Scores

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>U-Statistic</th>
<th>df</th>
<th>Approximate F Statistic</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>.37</td>
<td>1</td>
<td>14.95</td>
<td>.001</td>
</tr>
<tr>
<td>Status</td>
<td>.78</td>
<td>2</td>
<td>1.18</td>
<td>.31</td>
</tr>
<tr>
<td>Grade X Status</td>
<td>.85</td>
<td>2</td>
<td>.77</td>
<td>.68</td>
</tr>
</tbody>
</table>
Table 15.
ANOVA Summary Table for Main Effect of Grade on Friendship Issues

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formation</td>
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<td>1,58</td>
<td>.28</td>
<td>43.28</td>
<td>.001</td>
</tr>
<tr>
<td>Closeness</td>
<td>19.46</td>
<td></td>
<td>.34</td>
<td>30.53</td>
<td>.001</td>
</tr>
<tr>
<td>Trust</td>
<td>15.80</td>
<td></td>
<td>.27</td>
<td>24.18</td>
<td>.001</td>
</tr>
<tr>
<td>Jealousy</td>
<td>18.58</td>
<td></td>
<td>.32</td>
<td>18.31</td>
<td>.001</td>
</tr>
<tr>
<td>Conflict</td>
<td>28.09</td>
<td></td>
<td>.48</td>
<td>39.97</td>
<td>.001</td>
</tr>
<tr>
<td>Termination</td>
<td>22.74</td>
<td></td>
<td>.39</td>
<td>55.28</td>
<td>.001</td>
</tr>
</tbody>
</table>
Discussion

Major Hypotheses

Hypothesis 1: Grade and Friendship Understanding

As hypothesized, conceptions of friendship held by grade 7 children represented higher stages of cognitive development than conceptions held by grade 2 students. This finding is consistent with results obtained by Selman (1976) who reports stage of interpersonal understanding to increase with age, and with results obtained by Pellegrini (1985) who found a significant correlation of .35 between interpersonal understanding stage scores and age. This finding also provides support for the hierarchical, sequential nature of social-cognitive development as described by structural developmental theorists (e.g., Kohlberg, 1981; Piaget, 1970; Selman, 1980).

Hypothesis 2: Sociometric Status and Friendship Understanding

The hypothesis that compared with their socially accepted agemates, rejected and neglected children would display a developmental lag in their general understandings of friendship was not supported. There was no difference in stage of friendship understanding among the three groups of children. This finding differs from results obtained by Selman (1976) and Pellegrini (1985). These researchers found a relationship between level of interpersonal understanding and social maladjustment in elementary school-aged children.

Selman (1976) found that a clinical population of children with poor peer relations reasoned at a significantly lower stage of interpersonal understanding than peers sampled from a normal population. The present study did not find a
similar difference between children from a normal population who had poor peer relations and their socially accepted classmates. Methodological differences may account for the dissimilar findings.

In the Selman (1976) study, subjects' stage of interpersonal understanding was derived from averaging scores on each of the four domains of interpersonal relations: Individuals, friendship, peer group, and parent-child. In this study, only conceptions of friendship were assessed as it was reasoned that conceptions relating to this context of interpersonal relations would be most relevant to the problems of children who have difficulty relating to peers, and as the friendship interview provides the most reliable data of the four domains (Selman, 1980). Moreover, development across contexts of interpersonal relations as well as across domains of social reasoning (i.e., perspective-taking, moral reasoning) are thought to be structurally parallel, that is, develop in close synchrony (Selman, 1976, 1980).

While it is possible that the reasoning of clinic-referred children or that of rejected and neglected children is desynchronous across the four interpersonal domains, it would be surprising to find marked differences across the domains within individuals. Theoretically it is unlikely that the difference in performance of the two samples of children was due to scores derived from one versus four of the interpersonal domains. However, an empirical test would be required to rule out this assumption.

In the Selman study, clinic children were matched with normal children from public schools by age (within four months), socioeconomic status, gender,
race, and intelligence (within 10 IQ points). Matching procedures were not undertaken in this study as the three groups of children were sampled from the same population. However, there was no age overlap between the younger and older groups of children, the children all came from schools located within one socioeconomic region of the city, and findings indicated there was no association between gender or race and group sociometric status. Although statistically the grade 2 sub-sample had higher IQ's than the grade 7 sub-sample, group means were within 10 points and both groups had IQ's within the average range of intelligence. Rejected and neglected children were as intelligent as their socially adjusted peers which is consistent with Selman's finding that clinic and normal children were equally skilled at Piagetian cognitive tasks, i.e., despite the lag in social cognitive development, the clinic children could think as logically as their peers. For these reasons it is believed that differences in matching procedures does not adequately account for the findings.

The administration and scoring of the interpersonal/friendship understanding measure is a third methodological difference that may have contributed to the dissimilar findings. In the Selman study, the interpersonal measures were administered and scored by experts. (In the Pellegrini, 1985, study, interviewers and scorers were trained by Selman's research associates.) In this study, the interviews and scoring were conducted by inexperienced, manual-trained individuals. However, the interscorer reliability obtained in this study is comparable to reliabilities reported in the previous studies and the subjects' stage of reasoning was consistent with levels of reasoning expressed by normal children of the same age in the Selman study. For these reasons, it is believed the friendship understanding measure as used in this study is reliable.
One explanation of the inconsistent findings is that whereas the psychological problems experienced by clinic children are severe, the psychological problems experienced by children from normal school populations are not, even though both groups have difficulties relating to peers. Although some individual isolates in this study showed low to average stage conceptions for their age, as a group, their reasoning was well within age-norm levels (Selman, 1980; Selman et al., 1977) and as just mentioned, was consistent with levels of reasoning expressed by the normal children in Selman's (1976) study. Selman's clinic children, however, reasoned a full two stages below that of their peers. The learning, emotional, and social problems of these children had been severe enough to have them placed in a special clinic school. Yet some clinic children performed as well as or better than their normal peers, which led Selman (1976) to infer that mature interpersonal understanding is necessary but not sufficient for satisfactory interpersonal relations. The age-appropriate performance of the rejected and neglected children in the present study provides further support for this conclusion.

An alternative explanation of the failure to find differences among rejected, neglected, and accepted children as expected, is that the model of Interpersonal Understanding and/or the measurement of understanding is insensitive to group differences in the absence of severe departures from normal development. Or perhaps the model lacks ecological validity; that is, it bears little immediate relation to the social behavior, or general social adjustment, of most children who have problems interacting with peers. In recognition of this possibility, Selman (1976) has stated, "The structural-developmental approach may have little relevance to psychological analyses of specific social actions.
Developmental social-conceptual stages evolve over years. If...we...use a wide-angle lens to view social-cognitive development, ...specific behavioral observations made with a microscope cannot be expected to relate meaningfully to social-cognitive stages." (p. 184) It is also reasonable to assume that how children act in social situations is not indicative of their reasoning abilities; other psychological (e.g., affective responses such as anger, anxiety) and situational (e.g., peer pressure) factors may also influence behavior. In this study, socially incompetent children were selected according to the sociometric choices of their peers. A child's sociometric status is determined, in part, by peer evaluation of his or her behavior. Though interrelated, accepted sociometric status, mature social cognitive development, and effective social behavior are not equivalent. It may be that social competence, as assessed by peer sociometric nominations, and social cognition, as assessed by stage of interpersonal understanding, are too far removed from one another to expect a significant relationship. Fortunately, needed research examining the relationship between social cognition and social behavior in populations of clinic and normal children, with and without social difficulties, is being undertaken by investigators (e.g., Renshaw & Asher, 1983; Rubin & Clark, 1983; Selman & Demorest, 1984; Selman, et al., 1983).

Whereas Pellegrini (1985) found correlations between interpersonal understanding and peer assessments of social competence in a normal population, this study did not find any relationship between friendship understanding and peer sociometric status. The dissimilar findings may be accounted for by a number of related factors.
First, the two studies were designed to address related, but distinct, questions. The Pellegrini study examined individual differences on a number of variables associated with social competence whereas this study examined group differences. Intuitively, one would expect to find a relationship between an individual's social reasoning ability and other indices of his or her interpersonal functioning, as Pellegrini found. However, results from this study indicate that as a group, rejected and neglected children do not differ from their better adjusted peers in their understanding of friendship.

Second, different peer measures of social adjustment and different analyses were used in the two studies. A peer sociometric nomination measure was used in this study as the investigation was specifically concerned with children's friendships (Asher & Hymel, 1981). A peer assessment measure was used in the Pellegrini study as that investigation was concerned with social competence in general. Both measures identify three groups of children: accepted, rejected, and neglected; and, positive, disruptive, and isolated, respectively. The simplest explanation of the different results obtained in the two studies is that these measures identify different populations of socially competent and incompetent children. Research comparing the populations identified by the various sociometric measures and the various peer assessment measures is needed. Until such studies are undertaken to determine the degree of overlap in selected populations, interpretation of results across studies will continue to be ambiguous.

From a research point of view, the Revised Class Play (Masten et al., 1984) offers a number of distinct advantages over peer sociometric measures.
First, the Revised Class Play yields a continuous score for each child on each of the three dimensions. The peer sociometric measure yields three independent and exclusive categorical classifications. The scoring procedure of the Class Play has the effect of increasing variability inherent in the sample. One hundred children participated in the Pellegrini study. Since each subject received three competency scores, each analysis of each dependent variable involved 100 observations. In contrast, categorical classifications yield analyses based on fixed group or cell n's. Seventy-one children, classified into one of three sociometric groups, participated in this study. Thus analyses involved significantly smaller n's than in the Pellegrini study.

A second advantage of the Revised Class Play measure relative to the sociometric classification measure is that the interval level data of the former measure allows fine-grain analyses of relationships between the independent and dependent variables, which the nominal level data of the latter measure does not. For example, Pellegrini's finding that low interpersonal understanding scores and high IQ scores are associated with particularly high isolation scores would not be detected using a sociometric categorical scheme because this approach does not distinguish degrees of status within one sociometric category.

A third advantage of the Class Play measure is that it provides more information about the behavior or characteristics of socially incompetent children, as perceived by their peers. Peer selections are based on a number of behavioral or role descriptions rather than a single criterion of friendship likeability. In fact, with sociometric nominations, neglected children are identified by virtue of not being mentioned by peers. Of the four most common
categories of social status (popular, average, rejected, and neglected), peer sociometric nominations are least robust in identifying neglected status children (Newcomb & Bukowski, 1983).

The primary disadvantage of the Class Play measure relative to sociometric nomination measures is that the reliability, validity, and psychometric properties of sociometric tests are well documented, unlike the Bower Class Play measure. Even less information about the newly Revised Class Play measure is available to researchers.

In summary, sociometric nomination procedures offer a distinct advantage over the original Bower (1960) Class Play measure as the latter measure fails to discriminate between subgroups of socially isolated children. The Revised Class Play measure (Masten et al., 1984) may prove to be more useful to researchers, for some purposes, than sociometric nominations. Research examining the reliability and validity of the Class Play measure is needed, as is research comparing the populations identified by these two measures of social competency.

Several other findings reported in Selman's (1976) study and/or Pellegrini's (1985) study are relevant to results obtained in this study. These include the relationship between (a) social competency and interpersonal understanding, (b) interpersonal understanding and IQ, and (c) social competency and IQ.

Social Competency and Interpersonal Understanding. In normal populations, both Selman and Pellegrini found significant correlations between
peer assessment scores and interpersonal understanding scores. However, the patterns of correlations obtained in the two studies are inconsistent. Unfortunately for purposes of comparison and possible clarification, this particular analysis could not be conducted with the data available in this study. The sociometric measure used yields nominal data, unlike the peer assessment measure in the other studies which yields interval data.

Selman found no correlation between positive peer assessment scores and interpersonal understanding scores but found a significant, moderate correlation between negative peer assessment scores and interpersonal understanding scores ($r = -0.30$). In contrast, Pellegrini found a significant, moderate correlation between positive peer assessment scores and interpersonal understanding ($r = 0.42$) but found no correlation between negative peer assessment scores and interpersonal understanding.

The discrepancy in the relationship between negative peer assessment and interpersonal understanding is likely due to a methodological difference. Both studies used the Bower Class Play (Bower, 1960; revised 1969, 1981) measure as a peer assessment of social competency; but different versions were used. Selman used the 1960 version (20 items: 10 positive and 10 negative social roles) which yields a positive and a negative peer score. Pellegrini used a modified version (30 items: 15 positive and 15 negative social roles) which yields a positive (based on 15 items), disruptive (7 items), and isolated (7 items) peer score (Masten, Morison, & Pellegrini, 1984). It seems reasonable to assume that the group of children who received negative peer scores in the Selman study might have been comprised of "disruptive" and "isolated" children. Although
Pellegrini did not find a significant correlation between negative peer scores and interpersonal understanding scores, he did find a significant moderate correlation \( r = -0.53 \) between isolated peer scores and interpersonal understanding. The correlation between negative peer assessment and interpersonal understanding found in the Selman study may have been due primarily to the performance of a subgroup of isolate children.

It should also be noted that unambiguous interpretation of the relationships between peer assessment and interpersonal understanding reported in the Pellegrini (1985) study is hampered by a methodological weakness in the study. The peer assessment data was collected 10-15 months prior to the interpersonal understanding data. Despite evidence that peer reputation is relatively stable, it is likely that peer perceptions of some of the children had changed from one school year to the next and from one peer group to the next.

The collective results from the two studies suggest that children whose behavior is described as isolated by their peers, are likely to have immature conceptions of interpersonal relationships. Children whose behavior is positively evaluated by peers are likely to have mature conceptions of interpersonal relationships.

**Interpersonal Understanding and IQ.** Research evidence indicates that mature conceptions of interpersonal relations are related to general intellectual ability. Both Selman (1976) and Pellegrini (1985) found a positive, moderate correlation \( r = 0.49, p = 0.01 \) and \( r = 0.57, p = 0.001, \) respectively) between interpersonal understanding and IQ. This result was partially replicated in the
present study. A positive, moderate correlation ($r = .44, p = .02$) was found between friendship understanding and IQ, but only for second grade subjects. There was no correlation between friendship understanding and IQ for seventh-grade subjects.

The inconsistent pattern of relationships found between second- and seventh-grade and the subsequent failure to fully replicate the results obtained in the other two studies, does not appear to be due to the intellectual performance of the grade 7 subjects. The grade 7 group means and standard deviations for Block Design, Vocabulary, and estimated Full Scale IQ are consistent with standardized test norms (Wechsler, 1974) and with group means obtained by Pellegrini (1985). Although the mean IQ for both groups (107 and 100 for grades 2 and 7, respectively) fell within the average range of intellectual ability, as a group the grade 2 students had a higher IQ than the grade 7 students. The difference in IQ is due to the above average performance of the second-graders on the Block Design test (see Table 7 p. 58). It is possible that the IQ data obtained in this study is unreliable because of the relative inexperience of the interviewers in test administration. However if this were true, unusual scores for both groups on both subtests would be expected. Since this was not the case, the IQ data is believed to be reliable. The elevated Block Design scores are believed to reflect the above average abstract reasoning ability of this particular sample of second-graders.

If the intellectual ability of the grade 2 subjects in this study is exceptional, then the correlation found between friendship understanding and IQ may not generalize to other populations. Perhaps the results of this study would
not even partially replicate Selman's and Pellegrini's findings had a larger, or different, sample of children been assessed.

It would be premature to draw any conclusions about the relationship between friendship understanding and intellectual ability based on the limited data provided by this study. Not all facets of social cognition (perspective-taking, for instance) directly correlate with intellectual ability (Selman, 1976). Even though a general measure of conceptions of interpersonal role relations may correlate with general intellectual ability, a measure of one domain, such as friendship understanding, may not.

**Social Competency and IQ.** Research consistently indicates a relationship between social competence and academic achievement. For example, Green, Beck, Forehand, and Vosk (1980) found that normal children (teacher and peer nominated) had higher academic scores than disliked or withdrawn children. Evidence indicating a relationship between social competence (as assessed by peers) and IQ is not as consistent. The limited data available suggests that average or above average intellectual ability is not necessarily associated with satisfactory peer relations.

Rubin and Daniels-Beirness (1984) found a modest correlation ($r = .40$, $p < .001$) between intellectual ability (assessed by the Peabody Picture Vocabulary Test) and sociometric status among preschoolers. However, scores from this vocabulary test are not comparable to IQ scores and should not be used as a measure of general intelligence (Sattler, 1982). In the present study, there was no difference in IQ scores among accepted, rejected, and neglected children,
at either grade. This finding is consistent with Bower's (1980) data. He reports that in general, emotionally handicapped children (children who have problems relating to peers, learning difficulties, etc.) score lower than normals on group administered IQ tests, but not on individually administered tests like the Stanford-Binet or Wechsler batteries.

Pellegrini (1985) examined the relationship between social competency and IQ. Recall that social competency was assessed by peers, using a modified version of Bower's Class Play. IQ was estimated using the Vocabulary and Block Design subtests of the WISC-R. Pellegrini found that IQ was not correlated with disruptive behavior scores which is consistent with Bower's report. However, he did find a positive and modest correlation ($r = .20$, $p = .01$) between IQ and positive peer assessment scores. He also found a negative and moderate correlation ($r = -.48$, $p = .001$) between IQ and isolated peer assessment scores. However, multiple regression analyses revealed an interesting interaction between interpersonal understanding and IQ with respect to peer assessed social competency. Immature interpersonal understanding in conjunction with above average IQ, was associated with particularly high peer isolation scores. Pellegrini speculates that this pattern suggests a child "who lacks social 'know-how' despite adequate intelligence. Cognitive 'decalage' of this kind may result in self-doubt and tentativeness in initiating social contact." (p. 262)

Whereas Pellegrini found a relationship between social competency and IQ, this study did not. There was no difference in IQ scores among accepted, rejected, and neglected children at either grade. Differences between the two studies (i.e., a focus on individual versus group differences) may account for
findings.

Hypothesis 3: Sociometric Status and Friendship Issues

The hypothesis that compared with their socially accepted agemates, rejected and neglected children would display a developmental lag in their conceptions of specific friendship issues, such as friendship formation and conflict resolution, was not supported. Rejected and neglected children were not immature in their thinking about how to make friends or how to resolve conflicts between friends. This result is different from, but not inconsistent with, other studies which have found unpopular children to be less knowledgeable about friendship making (e.g., Gottman et al., 1975) and conflict resolution strategies, and less skilled in social situations than popular children.

Renshaw and Asher (1983) conclude that social knowledge differences between high- and low-status children are subtle. Studies consistently find that the most common friendship making strategies offered by popular children are also offered by unpopular children. However, popular children are able to offer more sophisticated strategies as well as a wider variety of strategies. In the Gottman et al. (1975) study, strategies suggested by children were differentially weighted based on pilot data which indicated that children tend to proceed in a fixed sequence of increasingly sophisticated behaviors when making friends. So, for example, a suggestion to greet an unknown child was given one point; offering information was given four points. Unpopular children scored significantly lower than popular children. That is, the low status children tended to suggest appropriate strategies, but strategies that were simpler and perhaps less effective. Like the unpopular children in these studies, the rejected and
neglected children in this study expressed age-appropriate knowledge of friendship formation. Despite this conceptual maturity, it is theoretically possible that they, like the low status children in other studies, are unable to generate as many, or as effective, strategies as accepted children. Since the stage of friendship understanding measure does not assess these particular aspects of social knowledge, speculations that such differences exist cannot be confirmed or refuted with the available data.

Other researchers who studied the behavioral correlates of sociometric status have found that low status children are less successful in their attempts to join peer groups (Dodge et al., 1982) and are less skillful in resolving negative interactions (Asarnow, 1983). However, a previously discussed, social behavior does not necessarily reflect social cognitive ability (Furman, 1984; Selman, 1980). Therefore, this study's finding that rejected and neglected children are as mature as their peers in their reasoning about making friends and resolving conflicts is not incongruent with previous studies which have found behavioral differences between high and low status children. While one might predict that the behavior of the isolates in this study is less skillful in some social situations than that of their peers, the possibility remains that their behavior is as effective as, or even more effective than, their peers'.

Summary of Major Findings

Conceptions of friendship held by older children in the study represented higher stages of social cognitive development than conceptions held by the younger children. Unlike clinic populations of socially maladjusted children,
conceptions of friendship held by the normal school population of socially rejected and neglected children in this study were as mature as conceptions held by their socially accepted peers. Their difficulties in relating to peers does not seem to be related to a developmental lag in their understanding of friendship role relations. The age-appropriate performance of the rejected and neglected children supports Selman's (1976) conclusion that mature interpersonal understanding is necessary but not sufficient for satisfactory interpersonal relations.

There was no difference in the intellectual ability of accepted, rejected, and neglected children. In general, research indicates that average or above average intellectual ability is not necessarily associated with satisfactory peer relations. Some studies have found a positive relationship between IQ and stage of interpersonal understanding. The relationship between IQ and the friendship domain of interpersonal understanding is less clear. In this study, a positive correlation between these two variables was found for the grade 2 subjects, but not for grade 7 subjects.

Finally, conceptions of specific friendship issues, such as friendship formation and conflict resolution held by rejected and neglected children were as mature as conceptions held by their peers. It was suggested that mature interpersonal conceptions do not exclude the possibility that other differences in social cognition between these groups may exist, or that mature understanding results in skillful and effective social behavior.

One implication of the finding that socially rejected and neglected
children do not lag behind their peers in their conceptual reasoning about friendship, is that unlike clinic populations, intervention programs for these children need not target interpersonal understanding as a primary therapeutic goal. That is not to say that a social reasoning enrichment component of a treatment package may not enhance overall treatment outcome. Discussion of friendship issues at a level consistent with the child's own reasoning, and at the next developmental stage, may facilitate the acquisition of other social competence skills. Research testing these assumptions would be useful to clinicians. If rejected and neglected children are mature in their conceptions about social relations as the results of this study indicate, perhaps if isolate children do have social cognitive deficits, these are related to social problem solving skills. This speculation would be consistent with Spivack and Shure's (1982) report that socially maladjusted children have deficits in some interpersonal problem solving skills, and with Pellegrini's (1985) finding that Means-End Problem Solving scores accounted for more of the variance in social competence abilities among grade school children than did Interpersonal Understanding scores. Perhaps with respect to social cognition, a primary target of interventions for rejected and neglected children should be interpersonal problem solving skills. Again, research specifically testing these hypotheses is needed.

This study's contribution to further understanding of the thinking of rejected and neglected children may have been enhanced had multiple aspects of social cognitive abilities (e.g., all domains of interpersonal understanding and interpersonal-problem-solving skills) been assessed and compared. Unfortunately, research resources did not permit such a comprehensive
undertaking. Nor did the sampling distribution allow for examination of gender differences among social status groups, an issue generally ignored in this area of research.

**Future Research**

Some of the kinds of research needed in the near future have already been mentioned, for example: Studies examining the links or mediators between social cognition and social behavior in normal-, rejected-, and neglected-populations; studies comparing populations identified by the various measures used to assess social competence; treatment outcome studies assessing the efficacy of social cognitive therapy singly, or in conjunction with other types of interventions; and studies examining social-cognitive and behavioral differences between genders. Investigators are also calling for research with a broadened perspective of the child's social world (Berndt, 1983; Ladd, 1984). Although research of peer status within the context of social networks within the classroom or school setting has been fruitful, this base needs to be expanded to include other dimensions of the child's complex social world, such as networks of non-school peers and non-school settings. Moreover, Ladd (1984) emphasizes the need to determine the value and purpose of separate networks and their interrelationships as they contribute to the development of social adjustment or maladjustment.

Finally, despite the recent interest in the plight of neglected children, a firm hold on the nature of their social difficulties continues to elude the grasp of investigators. Unlike their rejected peers, who are clearly distinguishable from
other groups of children by their aggressive behavior, neglected children are not clearly distinguishable by their behavior with the exception of observations that they tend to refrain from interacting with peers. Perhaps for some of these children, this is by choice; for most one would assume this is an unhappy state of affairs. Nor has research provided convincing evidence that these children differ significantly from accepted or rejected children on the basis of social cognitive abilities. If the definitive problem experienced by these children is neither behavioral nor cognitive, perhaps it is primarily affective. It may be that neglected children have adequate social knowledge and skill to be socially effective, but are inhibited, say, by anxiety and low self-efficacy, from applying their skills. Research supporting or refuting hypotheses based on these speculations may help tighten our tenuous grasp on the problems experienced by these children.
Footnotes

1. As defined by Chandler and Boyes (1982), social cognition "deals with knowledge about the knowledge of others" and the study of social cognition "concerns the efforts of social scientists to understand something of the knowing process of children as they attempt to understand what is known by others" (p. 387). Kendall (1982) further explains that physical and logical-mathematical cognitive events such as impersonal problem-solving, are excluded from definitions of social cognition.

2. Those children who were not participating in the study were then either taken aside by the teacher or instructed to do some quiet reading at their desks.

3. All papers were then collected and a second identical list was distributed.

4. During the exercise, the administrator circulated among the children to answer questions and check that instructions were being followed.
References


Gottman, J., & Parkhurst, J. (1980). A developmental theory of friendship and


Appendix A

Introductory Letter to Parents and Consent Form.

Dear Parent:

The UBC Department of Psychology is sponsoring a project entitled Children's Views of Friendship which is to be conducted at your child's school. The project is concerned with the development of children's understanding of friendship and we would like to ask your permission for your child to participate.

Friendships play an important part in a child's development and are particularly important during the school years. Some children have more difficulty making friends than others. In fact, it has been estimated that 5 to 10% of school age children do not have one close friend. Understandably, school and school work can become quite difficult for the child who does not have a supportive group of friends.

For these reasons, we are interested in working with teachers and school psychologists in developing programs for helping such children make and maintain friends. To do this, we need a better understanding of children's views, at different ages, of what friendship means to them.

There are three steps in the project. First, to give us an understanding of existing friendship patterns within the class, we would like to confidentially ask your child who he or she is friends with and who he or she is not friends with. Next, he or she would be asked to complete a vocabulary inventory (to assess his or her verbal level of understanding) and a block puzzle game (to assess general reasoning strategies). As the results from these two assessments may be of some educational benefit, these scores will be made available to the school. Finally, we would like to ask your child about friendship—what friendship means to him or her, how friends help each other, why friends might argue or disagree, etc. Responses about friendship will be recorded on tape for later review.

It should be noted that our interest is in the general nature of children's understanding of friendships. Therefore, we look at children as a group and do not "test" individual children, although they will participate individually. It is our experience that children enjoy participating in such projects. We respect their wishes concerning whether or not they wish to participate and consult with the classroom teacher to find a suitable time for a particular child to leave the regular classroom activities for approximately 30 minutes. Children are free to leave the session at any time if they do not wish to continue; such withdrawal would, of course, have no influence on class standing.

As already noted, we are interested in children as a group and as such would find it very helpful if all, or most, of the children in your child's class would participate. It would be greatly appreciated if you would complete the attached
I ____________________________, acknowledge receipt of
(parent or guardian)
a letter informing me of the "Children's Views of Friendship"
project to be conducted by Mrs. Sandra Bichard and I do / do not
(circle one)
give my consent for my child, ________________________________ ,
(child's name)
to participate.

______________________________
(signature)

______________________________
(date)
Appendix B
Introduction of Project and Sociometric Nomination Exercise to Students

Introduction

My name is Mrs. Bichard. I'm from the University of B.C. One of the things that I'm learning about at my school is children's friendship. Myself, and some people who are helping me, are visiting different schools in the city and talking to students about friendship. I was hoping some of you would help us out and talk to us about your ideas about friendship.

You may volunteer to be in our project if you like—as long as you have your parent's permission. You do not have to be in the project if you don't want to. Do you have any questions? 2

I am going to hand out some papers and will ask you to tell me who in your class you are friends with, and who you are not friends with. It's very important that what you tell me is kept confidential. That means when you're doing it you shouldn't say any names out loud, you shouldn't look at anyone else's paper, and afterwards, when we're all finished, you shouldn't tell anyone else what you put down. It's important to keep your work confidential because it's important for the project that you put down what you think, and not what someone else thinks, and because we want to make sure no one's feelings get hurt because you didn't put down the same thing they did. Are there any questions?
When you get your paper, print your own name at the top of the page. Then wait until I tell you what to do next.

Read all the names on the list. Then go back and circle the names of three people (not your own name) that you like to be friendly with. Remember not to say any names out loud. When you've circled three names, turn your paper upside down so I know you are finished.

When you get your paper, print your own name at the top. Then wait until I tell you what to do next. Read all the names on the list. Then go back and circle the names of three people (not your own name) that you are not very friendly with. Remember not to say any names out loud. When you've circled three names, turn your paper upside down so I know you are finished.
APPENDIX C
GUIDELINES FOR CONDUCTING FRIENDSHIP UNDERSTANDING INTERVIEW


APPENDIX D
INTERVIEW INSTRUCTIONS FOR CHILD

2. Ibid., p.28.

APPENDIX E
INTERVIEW QUESTIONS AND PROBES

3. Ibid., pp. 30-32.

LEAVES 106-14 NOT FILMED; PERMISSION NOT OBTAINED.

1. The interviewer's task is to bring out the child's own naive theory of interpersonal relations, whether of personality, close friendships, peer group dynamics, or parent-child relations, through his understanding of issues specifically related to each of the domains. These issues are the basic organizing system for social relations and the interviewer should always ask questions which seek to help the child articulate his thoughts about one of these issues.

2. Two general requirements ought to be filled by the interviewer. First, interviewing requires a nonthreatening or clinical approach to the subject as having natural abilities to make sense of the sometimes complex concepts which go along with personality, friendship bonds, peer group dynamics, or parent-child relations. We do not seek to test by an absolute criterion, but rather provide an atmosphere in which the child can perform at his/her highest level of competence. The child should be made to feel at ease in the interview, that his thinking makes a great deal of sense, and that the interviewer is personally interested in his ideas. Second, the interviewer ought to have a good knowledge of the stages of each of the interpersonal domains as described in the accompanying manuals. By knowing the kinds of responses made at the different stages, the interviewer is more likely to pick up and clarify ambiguous responses. Without both of these requirements the interviewer may never obtain the child's confidence enough to promote insights into peer relations or adequately probe vague responses necessary to elucidating the child's level of interpersonal understanding.

3. Given these basic requirements of interviewing, the initial task is to move from surface opinions or choices ("I think Jerry should be with his friend") to underlying cognitive structures, concepts or reasons ("because without friendship you would be pretty lonely"). To this end each of the numbered questions can be seen to have two parts. First, there are the standardized questions as written in the interviews. These standardized questions and their answers by the child are called the structured phase of interviewing. Often this structured phase of interviewing will produce scorable cognitive structures (concepts or reasons), but frequently the interviewer must resort to the open-ended phase. The open-ended phase represents the questions which the interviewer must create in the course of the interview to clarify reasons or move the child from opinions to underlying reasons. Usually the difference between an adequate interview and an excellent one is based on the interviewer's ability to think on his feet and come up with probes which both interest the child and serve to produce or clarify important conceptions. While the open-ended phase remains primarily an art form, two general open-ended probe approaches should be kept in mind. First, there are probe questions aimed at why a particular quality in
persons, friends, groups, or parent-child relations is important or necessary (e.g., HOW COME IT'S IMPORTANT TO TAKE VOES 'sic' IN A GROUP?). This relevance probe challenges the child to provide justifications for a particular idea. Second, there are probes which seek to uncover the specific stage-related nature or characteristic of a given concept. For example, children often say you have to know a friend before you can be really good friends. Using what we call the meaning probe, the interviewer might say: WHAT KINDS OF THINGS DO YOU HAVE TO KNOW ABOUT SOMEONE BEFORE YOU BECOME GOOD FRIENDS? The child who responds "names" or "what they look like" would then be giving a different stage of interpretation to the word know than the child who says, "what kind of personality they have." We find these relevance and meaning probes to be the most obvious of the many different tactics to use in interviewing. Of course, the interviewer will and should come up with his/her own that work even better.

4. Related to the problem of confusing surface opinion with reasoning or conceptions, sometimes the subject's initial reactions may be mechanistic, dealing only with physical or overt behaviors. Sometimes these mechanistic explanations are indicative of a lower stage but often individuals capable of higher stages will initially give only mechanistic answers. They may be thinking at higher levels, but only giving the interviewer a chance to hear responses which are simpler. For example, any subject may respond to the question, WHAT WOULD IT TAKE TO GET A TEAM GOING?, with the idea of "practice" characteristic of at least stage 1 thinking. However, further probing may reveal practice as a means for instilling coordinated "teamwork" (Stage 2) or "getting the team to work as a unit" (Stage 3). Therefore, even when reasons sound like they are at a particular stage of development, the interviewer should always explore the possibility of higher stages of awareness by using the relevance or meaning probes. Continuing with the example of practice, the interviewer might ask, 'sic' WHY DO YOU THINK PRACTICE MIGHT HELP THEM OUT? or WHAT KIND OF THINGS WILL PRACTICE DO FOR A TEAM?

5. Our interviews initially use a hypothetical context for discussion (e.g., IN THE DILEMMA YOU HAVE JUST SEEN, WHAT KIND OF PERSON IS JERRY?). However, we often find the hypothetical modality too limited and move to other social contexts. Three contexts are present in the peer relations interviews: (1) the hypothetical (WAS JERRY A GOOD FRIEND IN THAT STORY? WHY?), (2) the general (WHAT KIND OF PERSON DO YOU THINK MAKES A GOOD FRIEND?), and (3) the context of personal experience (WHAT KIND OF PERSON IS YOUR BEST FRIEND CHARLIE?). To improve the quality of the subject's insights, the interviewer may wish to change contexts of the questions. For example, a child unmotivated to discuss social psychological issues in a hypothetical story may become more verbal and insightful when the discussion is shifted to issues of conformity, cohesion, or leadership in his own peer group. On the other hand, children who become too involved in the mechanistic details of their own clubs or gangs may improve the quality of their reasoning by getting away from their personal experience through a hypothetical or general context of discussion. We do not seek to "test" the child but constantly adjust our interview to observe the conditions which bring out the highest level of competence of which the child is capable, as well as these conditions under which the child functions at a
lower level.

6. Some of our questions use words (team spirit, loyalty, personality, jealousy) which the younger children or those from different cultural backgrounds may not be familiar with. This, of course, creates a serious problem when interviewing. Two methods are used to reduce this problem. First, each issue in which difficult vocabulary is used also contains questions in which only a basic vocabulary is required. For example, in the peer group issue of Cohesion there are both questions of loyalty, an obviously difficult word and "what keeps a group together" which requires no special vocabulary. If the child does not know the meaning of a certain word, the interviewer need only find a more comprehensible or idiomatic question within the same issue. Since subjects are not scored for what they cannot answer, the limited vocabulary theoretically has less direct effect on the measurement of stage.

Second, following each of the most difficult concepts is a brief explanation in simpler terms. The interviewer may even supply his own definition. If a child does not appear to understand a given concept, the interviewer provides the definition and continues with the questioning. It has been our experience that such definitions organized at the child's own level of reasoning do not appear to bias the interview. Observe the following example:

DO YOU THINK TEAM SPIRIT IS IMPORTANT IN YOUR GANG?
What's team spirit?
IT'S WHEN EVERYONE LIKES EACH OTHER. DOES YOUR GANG HAVE THAT?
Yah, we all say 'hi' to each other.
WHY IS TEAM SPIRIT IMPORTANT?
Cuz if you don't, you'll get in a fight.

The interviewer supplies a definition at least of Stage 2 (spirit is liking each other). However, the child orients to the each other only in terms of surface behaviors (Stage 1) (we say hi to each other), not to the inner feelings of reciprocated affection.

7. For younger children, ages 3 to 6, we often find it necessary to bend our interviewing procedures. For example, when showing a filmstrip, the interviewer may stop the projector during the story and ask one or more questions which might be appropriate at that time. In this way the child need only hold his/her attention on the questions for a few minutes before returning to the more enjoyable filmstrips. Questions may be built-in after short episodes in the dilemma so that the interview is a series of episodes and questions. Often, very casual questioning about the young child's own friendships, at moments which may not be thought of as standard interviews, has proven effective.

8. Enjoy yourself! Interviewing children on their conceptions of peer relations is a creative challenge for even the "experts" on developmental stages. We often find creative interviewing techniques used by the "newcomer" which surpass the ideas we have come up with. Just remember to always ask yourself, in what way
am I adding to my understanding of how this child defines this issue in peer relations (jealousy, leadership, etc.). Try to listen to your first few interviews, perhaps with others, and think of ways to improve your clinical approach and open-ended probes. Try not to lead the child too strongly with your own assumptions, but don't be afraid to try new ideas.

Appendix D

Interview Instructions for Child

General Introductory Comments

We're going to go to another room where we can talk quietly. I'm going to tell you a story about two friends, then we'll talk about friendship. After that I'll ask you to do two games, one is a puzzle game and the other a word game. The whole thing will take about 30 minutes.

Introduction to Friendship Story

I'm going to read you a short story about two friends.

Then we'll talk about the friends in the story and I will ask you some questions about friendship.

This is not a test. There are no right or wrong answers.

Sometimes you might want to say the same thing for different questions. If that happens, that's okay.

If you don't know what some of the words mean, you can ask me and I'll try and explain it for you.

So I don't forget what you tell me, we'll use the tape recorder.

This is the story.

The Friends Dilemma - Children's version

Kathy and Becky have been best friends since they were five years old. They went to the same kindergarten and have been in the same class ever since. Every Saturday they would try to do something special together, go to the park or the store, or play something special at home. They always had a good time with each other.

One day a new girl, Jeanette, moved into their neighborhood and soon introduced herself to Kathy and Becky. Right away Jeanette and Kathy seemed to hit it off very well. They talked about where Jeanette was from and the things she could be doing in her new town. Becky, on the other hand, didn't seem to like Jeanette very well. She thought Jeanette was a showoff, but was also jealous of all the attention Kathy was giving Jeanette.

When Jeanette left the other two alone, Becky told Kathy how she felt about Jeanette. "What did you think of her, Kathy? I thought she was kind of pushy,
butting in on us like that."

"Come on, Becky. She's new in town and just trying to make friends. The least we can do is be nice to her."

"Yeah, but that doesn't mean we have to be friends with her," replied Becky. Anyway, what would you like to do this Saturday? You know those old puppets of mine, I thought we could fix them up and make our own puppet show."

"Sure, Becky, that sounds great," said Kathy. "I'll be over after lunch. I better go home now. See you tomorrow."

Later that evening Jeanette called Kathy and suprised her with an invitation to the circus, the last show before it left town. The only problem was that the circus happened to be at the same time that Kathy had promised to go to Becky's. Kathy didn't know what to do, go to the circus and leave her best friend alone, or stick with her best friend and miss a good time.

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Note. The story names Kathy, Becky, and Jeanette were changed to Gordon, Henry, and Barry, respectively, when narrated for male subjects.

Appendix E

Interview Questions and Probes

Instructions: Ask all marked (***) questions; ask unmarked questions if clarification is needed.

Introduction Warm-up

**1.** What do you think the problem is in this story?

**2.** What do you think Kathy/Gordon will do, choose to be with her/his old friend Becky/Henry or go with the new girl/boy Jeanette/Barry? 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.)

Formation

**4.** Why are friends important? Why does a person need a good friend?

4a. Jeanette/Barry is a new girl/boy in town and is trying to make friends. Why do you think making friends is important to her/him?

**5.** How should Jeanette/Barry go about making new friends? What is a good way to make a new friend?

**6.** Is it easy or hard to make a good friend? Why? Why is it sometimes ________________ (the opposite).

**7.** What kind of person makes a good friend?

**8.** What kind of person would you not want as a friend?

Closeness/Intimacy

**9.** What kind of friendship do you think Kathy/Gordon and Becky/Henry 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?

**10.** What kinds of things can good friends talk about that other friends sometimes can't? What kinds of problems can they talk over?
**11.** What's the difference between the kind of friendship Becky/Henry and Kathy/Gordon have and Kathy/Gordon and Jeanette/Barry's friendship? Are there different kinds of friendship? What's the difference between a regular and best friendship?

**12.** Which is better to have, one close friend or a group of regular friends? Why?

13. What does being friends for a long time, like Kathy/Gordon and Becky/Henry have, do for a friendship?

14. What makes close/good friendships last?

15. What makes two friends feel really close to each other?

16. 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?

**Trust and Reciprocity**

**17.** What kinds of things do good friends, like Becky/Henry and Kathy/Gordon do for each other? Is it important to do things for each other for a good friendship? Why?

**18.** Do you think trust is important for a good friendship? Why?

18a. Do you think it is important for Becky/Henry and Kathy/Gordon to trust each other in order to stay good friends? Why?

**19.** What is trust anyway? Is it something more than just keeping secrets and paying back? Does trust mean anything more than keeping secrets?

20. 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?

**Jealousy**

**21.** If Kathy/Gordon and Jeanette/Barry (the new girl/boy) become good friends, what will happen to Kathy/Gordon and Becky/Henry's friendship?

**22.** How do you think Becky/Henry feels about the new friendship? Do you think she might get jealous? What do you think she is jealous of?

**23.** What does it mean to be jealous in a friendship? What does jealousy do to a friendship? How can jealousy hurt a friendship?
Conflict Resolution

**24.** What kinds of things do good friends sometimes fight or argue about? Can this break up a friendship?

**25.** How should arguments be settled between good friends?

25a. If Becky/Henry and Kathy/Gordon have a big argument over this problem, how could they work things out so they stay good friends?

**26.** Can people be friends even while they are having arguments? How is that possible?

**26a.** Could their friendship actually become better from having this argument? Can arguments ever help a friendship?

Termination

**27.** What makes friendships break up?

27a. If Kathy and Jeanette become good friends, what do you think will happen to Becky and Kathy's friendship? Do you think it might break up because of it?

28. 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?

**29.** What does a person lose when they lose a good friend?

**30.** Why is it that good friends sometimes grow apart? What does it mean to grow apart from a good friend?

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