THESIS

LIBRARY
Michigan State
University

This is to certify that the

thesis entitled

THE INITIAL SOCIAL ENCOUNTERS OF CHILDREN OF NEGLECTED AND AVERAGE SOCIAL STANDING

presented by

Thomas Neal Packard

has been accepted towards fulfillment
of the requirements for

M.A. degree in Psychology

Andrew F. Newcomb
Major professor

Date 9/27/83

O-7639

MSU is an Affirmative Action/Equal Opportunity Institution

MSU
LIBRARIES

RETURNING MATERIALS:
Place in book drop to remove this checkout from your record. FINES will be charged if book is returned after the date stamped below.

ROOM USE ONLY

THE INITIAL SOCIAL ENCOUNTERS OF CHILDREN OF NEGLECTED AND AVERAGE SOCIOMETRIC STANDING

By

Thomas Neal Packard

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Psychology

1983

ABSTRACT

THE INITIAL SOCIAL ENCOUNTERS OF CHILDREN OF NEGLECTED AND AVERAGE SOCIAL STANDING

By

Thomas Neal Packard

It has often been assumed that children with few or no friends suffer a social deficit. The present study compared the interactions of first-, third- and fifth-grade neglected and average children in an initial dyadic encounter in the laboratory in order to determine if children with low social impact differed from socially "competent" children in their ability to interact with a stranger. The dyads were observed during a thirty-minute play session, and measures of common activity and information exchange, both thought to be important social processes, were compiled. Path analysis revealed a sequence of interaction in which the establishment of an activity was a causal precursor to the exchange of information. Older children exchanged more information about themselves than younger children, supporting the findings of other researchers that friendship criteria change with age. Social impact had only a weak influence on the course of interaction, and neglected children did not appear to differ glaringly from average children in their ability to carry on connected interactions with a stranger.

ACKNOWLEDGEMENTS

I would like to thank my advisor, Dr. Andrew F. Newcomb for his support, guidance, and willingness to let me find my own way; Dr. William Bukowski, and Nick Ialongo for their influence on my ideas regarding data analysis; and the administration, faculty and students of the East Lansing Public Schools and the Lansing Parochial Schools for their cooperation during data collection.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Research on children's peer relationships has generally assumed that children without friends suffer one or more social deficits (Conger & Keane, 1981). Recent sociometric research, however, has found neglected children to be an unstable group (Newcomb & Bukowski, in press), and there is some suggestion that the sociometric status of these children may improve over time (Coie & Dodge, 1983). If we are to efficiently allocate limited resources to the remediation of children's social deficits it is crucial that we begin to identify children who are truly deficient in the skills competent children employ in forming and maintaining social relationships. This task involves both a critical evaluation of the methods currently employed to identify neglected children, and the application of observational methodology to the determination of just what behaviors are involved in the management of relationships between children.

Until recently the most frequently used method of identifying isolated children was to observe the frequency with which children interacted with their peers (Asher, Markell & Hymel, 1981). The reasoning behind such measures is that children with low rates of interaction are deprived of social learning opportunities which might foster better adjustment, and as such are at risk for adjustment difficulties. This formulation is unclear, however, as to whether increased interaction is sufficient to increase social skills, or if social skills must be taught before interaction can increase. More

importantly, as noted by Asher et al., there is little evidence for the concurrent or predictive validity of rate of interaction methods as indicators of social adjustment. Before children with low interaction rates can be labeled at risk it must be shown that the sheer frequency of interaction is related to social effectiveness. Asher et al. conclude that the existing research does not support the use of rate of interaction measures as indicators of risk in children's social relationships. The quality rather than the quantity of interaction needs to be assessed in order to adequately judge whether or not a child's social relationships are problematic.

Sociometric instruments provide one alternative to rate of interaction measures as a means of identifying neglected children. Investigations of the correlates of peer status (Putallaz & Gottman, 1981a, 1981b; Gottman, Gonso & Rasmussen, 1975; Vaughn & Waters, 1981) and intervention studies (Hymel & Asher, 1977; Oden & Asher, 1977; Ladd, 1981) have typically classified children as popular or unpopular based on the number of other children who chose them as a friend, or on the basis of rating scale measures of acceptance.

One of the flaws in previously used methods of identifying isolated children is that they do not identify the same children. In an observational study of children's interactions Gottman (1977) found no relationship between isolation as defined by rate of interaction measures and isolation or unpopularity defined by sociometric measures. A further problem with sociometric methods which classify children as popular or unpopular (or as having high or low social status) is the confounding in the unpopular category of children who are actively disliked or rejected and children who are truly isolated in that they

receive few or no positive or negative nominations. Just as it is insufficient to count the number of times a child interacts with peers in a given period without assessing the quality of those interactions, it is also insufficient to count the number of friends a child has without considering the quality of the child's social relationships. It is children without friends, as opposed to children with enemies, which are referred to here as neglected in order to avoid some of the confusion engendered by the inconsistent criteria historically employed to classify children as isolated or withdrawn.

Peery (1977) offered a means of using sociometric methods to make the crucial distinction between the rejected and nelgected groups usng the independent dimensions of social preference and social impact (though Peery continues to apply the term isolated to children herein referred to as neglected). Social preference consists of the difference between the number of liked nominations and the number of disliked nominations a child receives, while social impact refers to the total number of positive and negative nominations. Coie, Dodge, and Coppotelli (1982) found that children with low social preference scores were rated by peers as being low on cooperativeness, supportiveness and physical attactiveness, and high on disruptiveness and aggression. These would be the attributes characterizing rejected children, who receive many negative peer nominations and thus have a low social preference score. Low social impact, which characterizes neglected children, indicated a lack of active, salient behaviors of either positive or negative valence.

Given the different behavioral profiles being formulated in the sociometric literature for neglected and rejected children, it becomes

necessary to recognize that these groups are likely to have qualitatively different relationships with their peers. As we attempt to answer the question of whether or not neglected children are an at-risk group we must consider the extent to which they differ from children of average or popular status, who are judged to be competent in interacting with peers, and from rejected children, who not only do not have friends, but who do have enemies. Newcomb and Bukowski (in press), in a longitudinal study of the stability of sociometric classifications with fifth-graders, found that the neglected group, as well as the popular and average groups, evidenced low stability of group membership over time. The rejected group, however, maintained a relatively consistent membership over time. Thus, while rejected children tended to continue to be classified as rejected, neglected children were less likely to be classified as neglected from one data collection point to another. Moreover, when neglected children changed group membership they were most likely to move to the average group, not the rejected group as would be expected if neglected and rejected children were viewed as having similar negative characteristics. Coie and Dodge (1983), studying a sample of third- and fifth-graders, also found that rejected group membership was more stable than neglected group membership, and that the status of neglected children seemed to improve over time. Their results also agree with those of Newcomb and Bukowski in that neglected children did not become rejected.

It is difficult to evaluate the status of neglected children as an at-risk group, however, without first identifying the behaviors employed by children in the formation and maintenance of friendships and assessing the degree to which neglected children are capable of engaging

in such behavior. It is also important to ask how the importance of different social processes changes as children grow older, and how such changes might affect an appraisal of children's social competence.

Gottman (1983) has recently presented an intensive study of acquainting children in which information exchange, self-disclosure and establishment of a common ground activity were all significant predictors of a criterion variable indexing the progress of the acquainting dyad toward friendship. Gottman interprets the pattern of results as suggesting that children improve in their ability to engage in all these processes as they grow older. There is also evidence that the relative importance of these processes shifts with age. Bigelow (1977) found that older children stressed empathy, understanding and self-disclosure as being important criteria in their friendship choices. Younger children have been found to place more emphasis on propinquity and common activities (Bigelow, 1977; Furman & Bierman, 1983). If such a transition does exist it must be accompanied by an increasing ability to assess the extent to which a potential acquaintance meets the new criteria. One way of making such an assessment involves the exchange of information between acquainting individuals.

The exchange of information has held an important place in theories of acquaintanceship formation in adults, but little has been done to trace the development of such a process in children. Newcomb (1961) demonstrated the importance of information about acquainting individuals in influencing those individuals' orientations toward each other. Altman and Taylor (1973) view the selective screening of information about another person as a part of a process they call social penetration, which is important to the formation of social

relationships. The process of social penetration is thought to progress from superficial areas to more intimate, personal types of information as the individuals become more familiar with each other. Duck and Craig (1977, 1978) hypothesize that acquainting individuals originally form models of each other's personalities on the basis of superficial clues, and alter those models to achieve a better fit on the basis of more intimate information obtained in subsequent interactions.

Duck, Miell, and Gaebler (1980) propose that children must follow the same process of increasingly detailed information exchange in acquaintance formation as do adults, and that limits are imposed on this process by the child's level of social development. In this context two questions become important. One is whether children, as they get older, begin to engage in the same process of information exchange as do adults. If they do, are neglected children less able to participate in this process than average children? If so, this might indeed be taken as an indicator of less than adequate social functioning for neglectd children.

Gottman (1983) has provided what is certainly the best study of normal in vivo acquaintanceship processes which has been done to date. The complexity and richness of the observational procedures employed constitute an especially significant methodological advance. However, Gottman's sample consisted almost entirely of children of pre-school or early elementary school-age. Moreover, sociometric status within an existing peer group was not considered. Though this sort of qualitative assessment is exactly what is necessary to determine if neglected children really do suffer social deficits, Gottman's data do not address the question of whether social processes proceed differently for

children of different social status, nor do his analyses, in which age has generally been partialled out, fully consider the question of how social processes change as children get older.

At least one study to date has directly assessed the ability of neglected children to interact successfully with peers of different status. Coie and Kupersmidt (in press) collected observational data which indicated that neglected status imposes constraints on the social behavior of boys in a group of familiar peers, but appears to be less stigmatizing in a group of unfamiliar peers. Neglected boys in familiar groups were less verbally and physically active than other group members, and were viewed by the other group members as shy. Neglected boys in both familiar and unfamiliar groups displayed less hostile aggression than rejected, average or popular boys. In unfamiliar groups, however, neglected boys seemed to display as much positively assertive behavior as did other boys. These results suggest that neglected boys do not suffer from an inadequate repertoire of social behaviors. If neglected children are able to interact successfully with peers it may be that they are less at risk for later difficulties than has been thought. Kupersmidt (1983) offered support for the latter assertion with longitudinal data indicating that rejected children were more at risk for problems such as police or juvenile court contacts, dropping out of school, failure to pass grade level, and truancy than were neglected children, who had adjustment histories similar to those of average children.

While most researchers have concentrated on identifying children's status within the peer group (Bukowski & Newcomb, in press; Coie & Dodge, 1983) or on social behavior in group situations (Coie &

Kupersmidt, in press; Putallaz & Gottman, 1981a, 1981b) less attention has been given to the role of dyadic interaction in the formation of social relationships. The fact that neglected children have few friends or enemies may be a reflection of a behavioral style which simply involves maintaining a limited number of relationships, rather than an indication of inadequate social skills.

Two intervention studies have indirectly considered the effect of sociometric status on social processes by employing an attention-control procedure in which children of low status were given a chance to play with a peer of higher status. Oden and Asher (1977) found that such a procedure was ineffective in improving children's social status on a sociometric measure. Hymel and Asher (1977), however, found that low status children in such a group improved in status just as much as two groups coached in social skills. It is unclear then whether exposure to higher status peers is beneficial to low status children. More important to the present investigation is the fact that these studies shed no light on the question of whether neglected children will interact competently when they are given an opportunity to interact with higher status peers, given the already questioned assumption that that a low frequency of interaction indicates a lack of competence.

The present study examines the behavior of children with low social impact scores and children with non-extreme social impact scores in the earliest stage of the acquaintanceship process. Since subjects were also chosen on the basis of non-extreme social preference scores the majority of the children in the present study would be classified as neglected or average. A more systematically constructed sample than

that studied by Gottman (1983) was employed to assess the extent to which neglected and average children of different ages are able to carry on connected social interactions with a strange peer. Boys and girls in first-, third- and fifth-grade classrooms were administered a sociometric questionnaire, and children meeting the above criteria were chosen to participate in the study. These children were then observed as they met another child of the same age and sex for the first time in a laboratory playroom. The ability of neglected and average children of different ages to establish a common play activity and to exchange information about each other was assessed in order to determine if neglected children were less competent at these types of social exchange than children of average standing. Pairs consisting of one average and one neglected child were included in the design in order to determine if the interactions of such pairs differ from the interactions of homogenous neglected or average pairs. If heterogenous pairs interact in a manner similar to pairs of average children it would indicate that neglected children are capable of responding appropriately to the overtures of children judged by sociometric criteria to be "competent." Moreover, if pairs of neglected children also interact in a manner similar to the average pairs, the hypothesis that neglected children suffer a social skills deficit would be called into question. Consistent differences between children with low social impact scores and children with normal impact scores on measures of common activity and information exchange across age levels may be taken to indicate that neglected children do sometimes experience difficulty relating to peers, or at least to unfamiliar peers. It was predicted that no such striking pattern would be found. Given findings that neglected children are not

a stable group and that their status seems to improve over time (cf. Coie & Dodge, 1983), it was deemed more likely that social skills deficits might be found in younger neglected children but that older neglected children would perform at the level of average children. Such a finding, coupled with those of Coie and Dodge might indicate that neglected children suffer a lag in the development of social skills. The absence of such a deficit even in younger children would cast further doubt on the notion that neglected children are at risk to an extent comparable to rejected children.

METHOD

Subjects

Subjects were drawn from first-, third-, and fifth-grade classrooms in seven public schools and three parochial schools in a suburban midwestern community. Neglected and average children were chosen from the original subject pool using a peer nomination sociometric which asked the children to name their three best same-sex friends and the three same-sex children with whom they would least like to play. The children also rated each same-sex child in their classroom on a five-point scale as to how much they liked that person.

The nomination sociometric was used to classify the children's sociometric status according to social preference and social impact scores standardized within classroom and gender (Coie, Dodge and Coppotelli, 1982). Neglected and average children from the original subject pool were then chosen to participate in the experimental stage of the study, which involved a visit to the laboratory to meet another child. Because neglected and average children by definition have social preference scores that are within one standard deviation of the mean for their classroom the selection of subjects for the experimental portion of the study resulted in a distribution of preference scores that was extremely restricted in range. As such, the average liked-rating of each child was chosen as a measure of peer acceptance. Social impact and liked-rating were used as quantitative measures of sociometric status in all analyses.

Each subject was placed in a dyad with another child of the same sex and grade level (N=144 subjects, 72 dyads). The children in each dyad were from different schools and when parents were contacted to arrange a visit to the lab they were asked if their child knew the child they were to meet. The mean ages of all children in the experimental portion of the study for whom birthdates were available were 7.1 years for first graders, 9.3 years for third graders and 11.2 years for fifth graders. See Appendix for the composition of each dyad and the social impact and average liked-rating scores of each subject .

Procedure

In the experimental phase of the study the neglected and average children engaged in an initial social encounter in the a laboratory setting. Each dyad was videotaped in a playroom during a thirty-minute play session (Footnote 1). Care was taken that the children did not meet or see each other until they were brought into the playroom by separate experimenters. Upon entering the playroom the children were told that the experimenters had some other things to do and would return in half an hour to ask them some questions, and that they could do anything they wanted to in the playroom while they waited. The children were not introduced. Videotaping was done through a one-way mirror, and the children were unaware of the camera during the play session. There was a series of small mirrors extending all around three walls of the room, so that those few children who may have suspected they were being watched would be unable to determine the exact location of the observers.

Following the play session the children were administered a structured interview consisting of four parts, one assessing the amount

of information the child could recall about his or her play partner, one assessing the child's evaluation of his or her play partner, one assessing the child's cognitive strategies for social interaction, and one assessing the child's perception of his or her own reputation within his or her peer group (the interview is described more fully below). The two children in each dyad were interviewed by separate experimenters in separate rooms.

Measures

Table 1 lists the dependent measures employed in describing the data, which are described in two sections below. Note that the observational measures Common Activity, Disconnectedness and Information Exchange, and the interview measures Prosocial Attributes, Antisocial Attributes and Immaturity are reduced measures derived from other data in a manner described in the Results section.

Observational Measures

Affective measures. Each interaction was coded live by trained undergraduate observers using OS-3 event recorders (Observational Systems, Seattle, Washington). The observers recorded each occurrance of four non-verbal affective behaviors. The four behaviors were defined as follows:

1. Look--One child physically oriented his or her gaze so that the other child was in his or her line of vision and was the object of focus.
2. Smile--An upturn of the lips, as to express joy or amusement.
3. Laugh--Coded whenever laughter was heard.
4. Touch--Coded when one child made a purposeful but non-aggressive physical contact with the other, using his or her hand.

Table 1

Summary of Dependent Measures

Observational Measures	Interview Measures
Look	Information recall
Smile	Physical description
Laugh	Objective
Approach	Activity
Mutual play[a]	Subjective
Separate play[a]	Ratings of play partner
Mutual exploration[a]	Prosocial attributes
Separate exploration[a]	Antisocial attributes
Sports information	Immaturity
School information	Cognitive strategies: Open-end
Peer information	Information exchange
Family-objective information	Play
Self-objective information	Ineffective
Self-ability information	Cognitive strategies: Multiple choice
Family personal information	Friendly/assertive
Self-personal information	Unfriendly/assertive
Ask introduction	Friendly/submissive
Give introduction	Unfriendly/submissive
Indirect bid for activity	Knowledge of own social reputation
Direct bid for activity	Positive roles
Play-oriented verbalization	Helpful
	Leader
Common Activity	Smart and usually knows answer
Disconnectedness	Nice and follows directions
Information Exchange	Good and interesting ideas
	Negative roles
	Afraid
	Fights
	Mean and bossy
	Quiet and shy
	Angry and complaining

[a]Scored for duration and mean duration

Observers were seated in an adjacent room, facing the same direction but about eight feet apart, and did not have exactly the same view of the playroom. Because observers reported difficulty distinguishing looks and smiles under these conditions those two codes were lumped together into a category called Approach for analysis.

Reliability for all measures was assessed for a sample of 20% of the dyads (N=15) by the methods developed by Cronbach, Gleser, Nanda, and Rajaratnam (1972). In their development of generalizability theory Cronbach et al. note that the analysis of data from a generalizability study must be specific to the needs of the decision study in which the measures are to be employed. In the present case this involves the assertion that the differences between observers coding the same dyad are trivial compared to the differences between dyads. This claim is tested by conducting a within subjects analysis of variance, with observer as a repeated measure, and computing a generalizability coefficient based on estimates of components of variance. This coefficient is the ratio of true score variance to expected observed score variance and has been recommended for use with observational data by Jones, Reid, and Patterson (1975) and Gottman (1983). Generalizability coefficients for Approach, Laugh and Touch were .60, .54, and .86 respectively.

Videotape coding schemes. Trained undergraduate observers coded the videotapes of the interactions using Microprocessor Operated Recording Equipment (MORE; Observational Systems, Seattle, Washington). The tapes were coded in three passes according to a scheme designed to describe the social context of the interaction and to classify two

domains of verbal behavior--information exchange and verbalizations directed at establishing or maintaining a common activity. One of four social context codes was in effect at all times, so that each verbalization co-occurred with one of the context codes. The social context codes were defined as follows:

1. Mutual play--this category was coded whenever the children were engaged in the same activity together, such as playing a game, working on the same puzzle or on a single drawing, or just sitting and talking. Mutual play was not coded unless the children were cooperating on an activity (i.e., drawing different pictures on the same paper, or working side by side on two puzzles did not constitute mutual play).
2. Separate play--coded whenever the children were involved in their own separate games or play activities. If the children were talking to each other, but at the same time were engaged in separate play activities, separate play was coded.
3. Mutual exploration of the play area--coded whenever the children had not settled on a play activity and were exploring the room together. "Together" in this case meant that both children were exploring the room and were sharing information about what they found.
4. Separate exploration of the play area--coded when both children were exploring the room, but were paying no attention to each other or were not sharing information about what they found. If one child had settled on an activity while the other was still exploring the room, separate play was coded.

The social context codes were summarized in two ways. Since a pair of

children who played together for 20 straight minutes was thought to be more connected than a pair that engaged in mutual play for a total of 20 minutes out of 30, but never did so for more than five minutes at a time, both the total duration and mean duration of all social context codes were computed.

The information exchange codes were defined as follows:

1. Sports information--information about organized sports activities at school, church, city recreation departments, etc. Sports information was required to be a reference to organized activity.
2. School information--any information about school attendance such as name of school, grade, teacher's name. School information was required to concern academics or organized school activities.
3. Peer information--information about friends or acquaintances.
4. Family-objective information--objective information about the family such as number of siblings, parents' occupations, previous historical markers such as moves, vacations, births or weddings, etc.
5. Self-objective information--objective information about the self, such as age, possessions, organizations belonged to, etc.
6. Self-ability information--information about competence or prowess.
7. Family-personal information--more intimate disclosures about the family such as "I hate my parents," "I saw my brother naked."

8. Self-personal information--more intimate disclosures about the self, including likes and dislikes, fears, hopes, etc. Examples would be "I like to smoke cigarettes," "I'm afraid to go to middle school."

The codes for verablizations directed at establishing or maintaining a common activity were defined as follows:

1. Ask introduction--any time one child asked the other for his or her name.
2. Give introduction--any time one child told the other his or her name.
3. Bid for activity--coded when one child moved directly or indirectly to engage the other in an activity, asked permission to join the other in an activity, or asked the other's preference in an activity.
4. Play-oriented verbalization--any verbalizations concerning the game or other activity in which the children were engaged, which did not qualify as bids for activity.

Reliability for the videotape codes was assessed using Cohen's Kappa (Cohen, 1960), which is essentially a percent of agreement statistic corrected for the percent of agreement expected by chance. Computed for all codes over all tapes in the reliability sample Kappa was equal to .69. This value exceeds the value recommended by Hartmann (1977) as an acceptable criterion for reliability using the Kappa statistic. Moreover, as noted by Gottmann and Parkhurst (1980), reliability in any study must be established for the dependent variables to be analyzed. Since in this case the individual codes were further reduced to categories derived from a confirmatory factor analysis, Kappa

is a more stringent criterion than is required for this data. Data reduction and generalizability coefficients for the final dependent measures are described in the Results section.

Interview Measures

Information recall. The first section of the interview was divided into two parts. The first was an open-ended question in which the experimenter simply asked the child to relate everything he/she could remember about his or her play partner. This was followed by a series of 19 direct questions in which the child was asked if he/she remembered the play partner's clothing, residence, school, grade, birthday and other objective information. The child's responses to both the open-ended and direct questions were recorded verbatim and coded into four categories: Physical Description, Objective Information (e.g. residence, grade, birthday), Activity Information (description of playroom activity), and Subjective Information (e.g. "She's nice," "He's my new friend"). Generalizability coefficients calculated for a 24 percent sample of the interviews (N=35) were .84, .57, .82 and .93 respectively.

Ratings of play partner. In the second part of the interview the children responded to 31 Likert-scale items asking if the play partner possessed various attributes. The child responded by pointing to a cardboard representation of a five-point scale, where 1 meant the play partner "Never" possessed the attribute and 5 meant the play partner "Always" possessed the attribute.

Assessment of cognitive strategies. Two types of questions assessed the children's cognitive strategies for interaction. A set of 18 multiple-choice questions presented the child with a social situation

and asked him/her to choose among four alternative responses. The responses were constructed along the dimensions of friendly/unfriendly and assertive/submissive after Renshaw and Asher (in press). Thus for each question there were four responses: friendly/assertive, unfriendly/assertive, friendly/submissive, and unfriendly/submissive. A series of open-ended hypothetical situations was also presented. The child was given a situation which centered upon making, maintaining, or terminating a friendship. The children's responses were recorded verbatim and coded according to the following strategy categories:

1. Information Exchange--Asking the other child's name, giving his or her own name, asking for information about the other child, or giving information about himself or herself.
2. Play strategies--Inviting the other child to participate in an activity, or any other statements indicating that the two children would participate in an activity together.
3. Ineffective strategies--Statements indicating hesitancy about approaching the other child or making friends, or strategies which were otherwise ineffective (e.g. "Just wait for him/her to say something to me").

Generalizability coefficients for the three strategy categories were .93, .50 and .74 respectively.

Perception of social reputation. The child was asked to rate himself or herself on a one to five scale on ten class-play roles according to how much he or she thought his or her classmates would say he or she was like each role. The ten roles were scored as positive or negative. The positive roles were Helpful, Leader, Smart and Usually Knows the Answer, Nice and Follows Directions, and Has Lots of Good and

Interesting Ideas. The negative roles were Afraid, Fights, Mean and Bossy, Quiet and Shy, and Angry and Complaining.

RESULTS

Observational Measures

Construction of Measurement Model. Means and standard deviations of all discrete observational variables are presented by grade and gender in Table 2. Prior to further analysis the variables from the videotape coding scheme were subjected to confirmatory factor analysis with communalities in the diagonal (Hunter, 1977), in order to make more efficient use of the information contained in such a large number of codes. Items were grouped on conceptual grounds into four groups labeled Common Activity, Disconnectedness, Surface Information, and Penetration. Following the initial confirmatory factor analysis adjustments were made based on correlations between items and cluster scores, and another confirmatory factor analysis was performed. Five iterations of this process were required to arrive at the final solution of three clusters, in which Surface Information and Penetration were combined into a single cluster labeled Information Exchange.

The items belonging to each group and the correlations between items and estimated cluster true scores are shown in Table 3. All codes were included in one of the final clusters. Examination of these part-whole correlations revealed that each item correlated most highly with the cluster to which it belonged, and that the items within each cluster correlated similarly with the other clusters. This may be taken to indicate unidimensionality of measurement. The reliability of the scales as assessed by standardized coefficient alpha was satisfactory in

Table 2

Means and Standard Deviations of Observational Variables

	First Grade				Third Grade				Fifth Grade			
	Boys		Girls		Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Sports information	0.0	0.0	0.0	0.0	1.3	3.9	.17	.39	6.6	10.6	6.6	7.2
School information	3.9	4.5	6.9	7.7	5.6	7.0	6.7	6.6	19.4	21.8	21.2	24.2
Peer information	3.4	7.1	2.5	4.7	2.5	5.0	.83	1.4	6.3	12.9	17.4	23.0
Family objective information	3.3	5.3	3.3	5.2	3.2	5.0	3.2	5.6	2.0	3.8	6.6	8.0
Self objective information	14.9	22.9	12.9	11.9	18.7	22.7	7.1	6.0	18.3	29.7	23.3	30.9
Self ability information	1.8	1.9	1.6	3.4	2.1	2.7	1.6	3.1	3.1	4.3	4.1	4.1
Family personal information	1.1	2.7	1.7	3.4	0.0	0.0	.75	2.1	2.0	6.6	1.7	2.4
Self personal information	10.0	17.8	4.3	4.1	3.5	5.8	3.1	3.8	4.4	6.4	14.7	13.8
Ask introduction	.50	.80	2.1	1.8	2.1	1.5	1.4	1.3	1.3	1.4	1.0	1.0
Give introduction	1.0	1.8	2.7	2.1	1.8	1.5	1.8	.96	2.2	1.5	2.1	1.4
Bid for activity	12.3	7.7	14.7	10.8	7.3	4.7	9.3	8.0	8.9	6.2	8.7	5.9
Play oriented verbalization	197.9	99.0	178.0	84.6	174.5	100.4	184.8	99.4	128.9	79.8	136.0	97.5
Mutual play duration	164.8	103.8	183.3	93.3	193.1	109.3	277.2	85.2	269.3	73.0	264.3	91.0
Mutual play mean duration	79.6	93.6	72.0	52.6	71.4	63.9	143.6	66.1	169.9	85.0	135.8	87.0
Separate play duration	183.4	98.7	153.4	91.8	156.6	109.2	71.3	83.3	88.7	75.5	83.3	90.5
Separate play mean duration	66.3	50.4	74.8	70.0	76.8	99.4	26.0	31.0	39.6	32.8	32.1	43.9

(table continues)

	First Grade				Third Grade				Fifth Grade			
	Boys		Girls		Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Mutual exploration duration	7.6	4.2	13.9	12.6	7.8	7.0	6.8	4.2	3.8	2.8	8.6	10.3
Mutual exploration mean duration	4.7	2.4	6.6	4.3	4.5	2.6	3.4	1.7	2.8	2.3	4.2	3.5
Separate exploration duration	1.3	1.5	4.7	6.7	1.6	3.4	4.3	5.9	2.0	3.6	3.0	3.8
Separate exploration mean duration	1.3	1.5	3.1	3.6	1.3	3.3	3.4	4.9	1.4	2.2	2.5	3.6
Total verbalization	299.8	112.8	328.1	138.8	306.1	140.9	330.0	126.1	292.5	95.4	383.8	126.7
Touch	13.2	11.0	3.2	7.2	2.8	4.6	1.0	2.2	2.5	4.4	1.1	1.4
Laugh	48.5	32.1	42.3	27.1	35.2	37.6	29.1	31.4	18.3	18.0	37.8	29.2
Approach	206.8	85.5	199.8	84.7	185.2	99.0	159.1	65.2	167.6	74.7	204.2	58.9

Note. Values for all verbalization codes and for Touch, Laugh, and Approach are mean number of occurrences. Values for activity codes are mean number of five-second intervals for which the category was scored.

Table 3

Correlations between Observational Variables and Clusters Derived in the Confirmatory Factor Analysis

	Common Activity	Disconnectedness	Information
Common Activity			
Mutual exploration duration	.66	.00	.03
Give introduction	.56	-.20	.16
Mutual exploration mean duration	.56	.08	-.04
Ask introduction	.52	-.10	.07
Total verbalization	.52	-.27	.29
Bid for activity	.48	.10	-.06
Play verbalization	.43	-.29	-.34
Disconnectedness			
Mutual play duration[a]	.02	.90	-.02
Separate play duration	-.06	.88	.88
Separate play mean duration	-.35	.74	-.15
Mutual play mean duration[a]	.11	.71	-.04
Separate exploration duration	-.27	.43	-.07
Separate exploration mean duration	-.19	.41	-.08
Information Exchange			
Self-objective information	.07	-.05	.77
School information	-.06	-.04	.73
Peer information	-.13	-.05	.72
Family personal information	.09	-.02	.63
Self-personal information	.07	.05	.59
Sports information	-.05	-.28	.55
Self-ability information	.03	-.06	.44
Family-objective information	.12	.02	.36

[a]Item reverse scored

each case--.73 for Common Activity, .83 for Disconnectedness, and .82 for Information Exchange.

Scores for each dyad were obtained by standardizing scores on each of the individual codes, computing cluster sums and standardizing the sums. Thus each item in a cluster contributed equally to the cluster score. The standardized cluster sums were used as indices of the social processes for which they were labeled in all subsequent analyses.

Interobserver reliability checks were conducted on the same sample of videotapes as for the individual codes. Generalizability coefficients were .98 for Common Activity, .66 for Disconnectedness, and .97 for Information Exchange.

Effects of Sociometric Variables. In order to assess the direct effects of social impact and liked-rating all observational variables were subjected to hierarchical multiple regression analyses with grade and gender entered into the equation on the first step, the social impact scores of the children in the dyad on the second step, and the children's liked-ratings on the third step. In this manner it could be determined if social impact could account for variance in the dependent variables over and above that already accounted for by grade and gender. Similarly, the effect of liked-rating in this analysis is limited to variance not already accounted for by grade, gender and social impact.

Significant multiple correlations were obtained for Touch, Disconnectedness and Information Exchange. Table 4 presents multiple correlations and F-ratios for the regression equations, the increase in variance accounted for when each predictor is entered into the equation, beta-weights and their standard errors for each predictor, and T-values testing the significance of the beta-weights. In no case did any of the

Table 4

Hierarchical Multiple Regression Analyses on Observational Variables

Step	Predictors entered	R^2 increment	β	SE_β	t
Touch	Multiple $R = .51$	$F(6,64) = 3.84$, $p < .01$			
1.	Grade	.132	-.350	.108	-3.25*
	Gender	.098	.334	.107	3.11*
2.	Impact 1	.005	-.026	.119	- .22
	Impact 2	.002	.037	.116	.31
3.	Like-rating 1	.003	.046	.107	.43
	Like-rating 2	.025	-.164	.111	-1.48
Disconnectedness	Multiple $R = .42$	$F(6,64) = 2.35$, $p < .05$			
1.	Grade	.048	-.204	.114	-1.79
	Gender	.090	-.217	.113	-1.91
2.	Impact 1	.034	-1.99	.126	-1.59
	Impact 2	.050	-.156	.122	-1.27
3.	Like-rating 1	.006	.078	.113	.69
	Like-rating 2	.000	.021	.117	.18
Information Exchange	Multiple $R = .44$	$F(6,64) = 2.61$, $p < .05$			
1.	Grade	.154	.404	.113	3.58*
	Gender	.003	-.049	.112	- .43
2.	Impact 1	.016	-.122	.124	- .98
	Impact 2	.005	.105	.121	.86
3.	Like-rating 1	.017	.133	.112	1.18
	Like-rating 2	.000	-.019	.116	- .17

*$p < .05$

sociometric variables have a statistically significant effect on the dependent variable, and in general social impact and liked-rating accounted for negligible portions of the variance in dyad scores on the dependent variables. The one exception was on Disconnectedness, in which the two social impact scores combined to account for 8.4 percent of the variance. Grade and gender were significant predictors of touching, with younger boys touching more often than other children. Older children scored significantly higher on Information Exchange than did younger children. None of the individual predictors had significant beta-weights for Disconnectedness, but grade, gender, and social impact combined to account for the major part of the explained variance. Multiple correlations for Laugh (.27), Approach (.23) and Common Activity (.23) were non-significant, and none of the individual predictors had a significant beta-weight for any of these measures. Thus, none of the independent variables in the present study could account for an appreciable amount of variance in Laugh, Approach or Common Activity. However, it should be recalled that generalizability coefficients for Approach, Laugh and Disconnectedness were low. Correlations with these variables are thus attenuated due to measurement error.

In order to test the effects of the interactions of sociometric scores regression analyses were conducted in which the product of the subjects' impact scores was entered on the step following the scores themselves (Cohen, 1978). The interaction of liked-ratings was tested in the same manner. In no case did the interaction term significantly improve prediction.

Construction of Causal Model. A more important goal for the

present study than assessing the direct effects of the various independent variables on the various dependent variables was the development of a model which describes the means by which age, gender, sociometric status and behavioral processes influence children's initial social interactions. As a first step in constructing such a model a series of preliminary regression analyses were carried out to evaluate the predictive utility of the variables measured by this study. In order to be included in subsequent analyses a variable must have been shown by this screening process to have at least a marginally significant ($p<.10$) regression weight in predicting at least one other variable to which it was conceptually related and to which it could have been conceived as causally prior. In the case of the sociometric measures, for which there were two scores for each dyad, it was also required that the scores influence the predicted measure in the same manner. The rationale for this was that the children in each dyad were arbitrarily designated as Child 1 or Child 2, and examination of the means and standard deviations indicated that those designated Child 1 did not differ significantly from those designated Child 2 on the sociometric variables. For this reason it was not expected that the score Child 1 social impact (or liked-rating) would influence a dependent variable in a direction opposite that in which the score Child 2 social impact (or liked-rating) influenced the same variable. Those few instances in which such opposite effects occurred were small in magnitude and failed to reach statistical significance. As such they were regarded as the result of sampling error and excluded from the model. The products of sociometric scores were again used to test for the presence of interactions between the scores of the two children. In

no case did the product variables improve prediction, and they were dropped from all subsequent analyses.

Using the above criteria seven variables were chosen for inclusion in the path model, which is shown in Figure 1. An ordinary least squares path analysis (Hunter & Gerbing, 1982) was used to test the model. Table 5 shows multiple correlations, F-ratios, beta-weights and their standard errors and T-tests for the direct effects corresponding to the arrows in Figure 1. Table 6 shows the errors obtained by subtracting the correlations predicted by the model from those observed in the data. Note that fourteen of these errors are constrained to be zero because the corresponding correlations are those observed in the data, while the other seven are reproduced from the path model. The data fit the model to within sampling error--none of the unconstrained errors in Table 6 were significantly different from zero, and the chi-square test for overall fit was non-significant, chi-square with seven degrees of freedom equal to .706, indicating that the observed correlations match those expected from the model to within sampling error.

Interview Measures

The means and standard deviations for all measures derived from the post-interaction interview are shown in Table 7. The findings on each section of the interview will be discussed separately.

Information Recall and Ratings of Partner. Table 8 presents the results of the multiple regression analyses on recall of Physical Description and Objective Information about the play partner. Grade, the partner's social impact score and the child's own liked-rating were significant predictors of recall of physical description, while gender

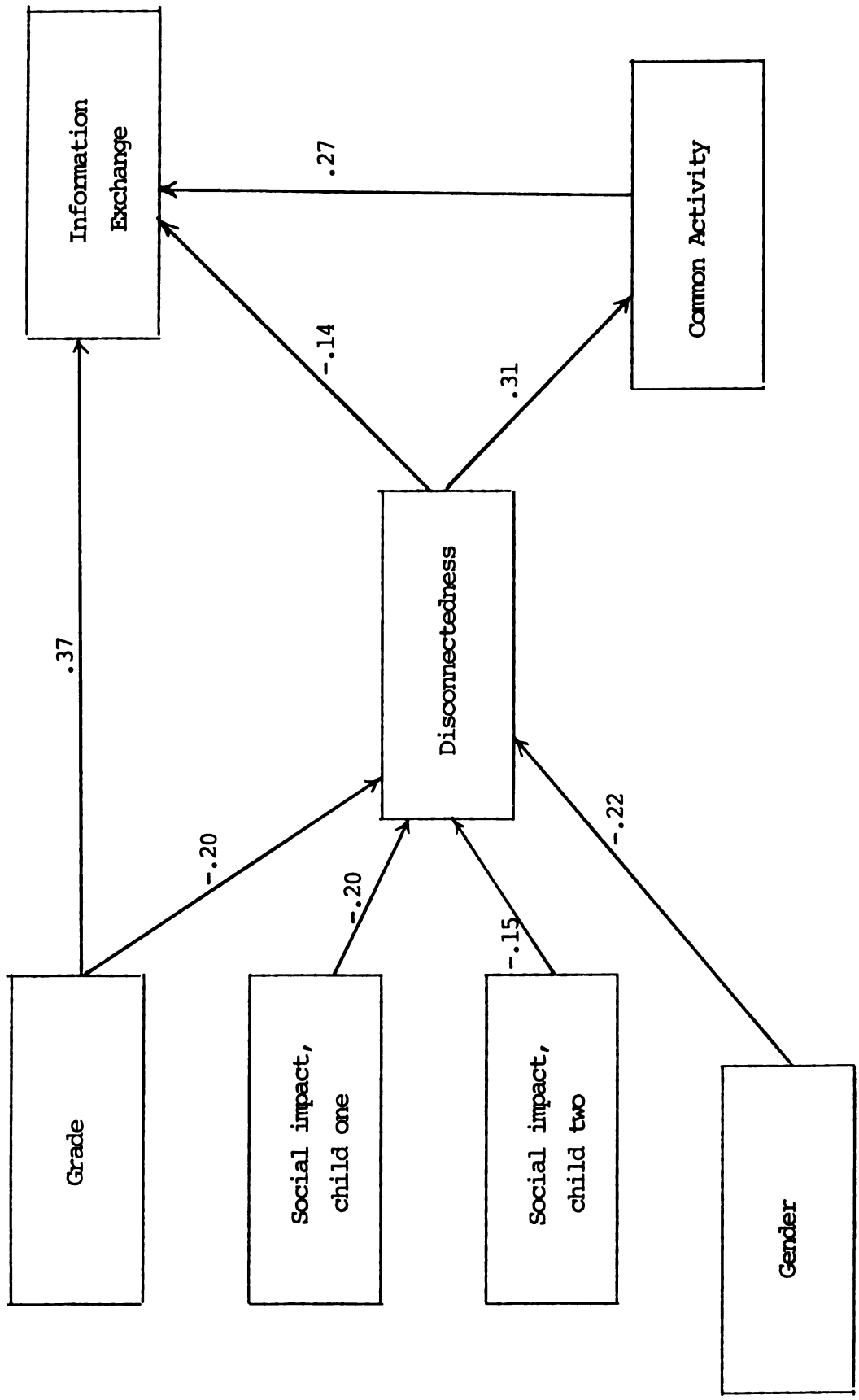

Figure 1. Structural diagram and standardized regression coefficients for path model.

Table 5

Simultaneous Multiple Regression Analyses on Direct Effects Included in Path Model

Disconnectedness	Multiple R = .42	$F(4,66) = 3.48$, $p < .05$	
Predictor		β	SE_β	t
Grade		-.198	.112	-1.77
Gender		-.217	.111	-1.95
Impact 1		-.200	.120	-1.67
Impact 2		-.151	.119	-1.27
Common Activity	Multiple R = .31	$F(1,69) = 7.49$, $p < .01$	
Predictor		β	SE_β	t
Disconnectedness		.313	.113	2.76*
Information Exchange	Multiple R = .47	$F(3,67) = 6.37$, $p < .01$	
Predictor		β	SE_β	t
Grade		.375	.110	3.42*
Common Activity		.268	.113	2.38*
Disconnectedness		-.142	.115	-1.23

*$p < .05$

Table 6

Observed Minus Predicted Correlations Among Variables in the Path Model

	Grade	Gender	Impact 1	Impact 2	Disconnectedness	Common Activity
Gender	0.0					
Impact 1	0.0	0.0				
Impact 2	0.0	0.0	0.0			
Disconnectedness	0.0	0.0	0.0	0.0		
Common Activity	.02	-.08	.08	.11	0.0	
Information Exchange	0.0	-.06	-.10	.07	0.0	0.0

Note. All errors of 0.0 were constrained to be so by the estimation process.

Table 7

Means and Standard Deviations of Interview Measures

	First Grade				Third Grade				Fifth Grade			
	Boys		Girls		Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Information recall												
Physical description	4.8	1.2	5.0	1.8	5.1	1.4	5.5	1.3	5.9	1.1	5.7	1.4
Objective	2.8	1.2	2.8	1.9	2.2	1.5	2.9	2.0	3.0	1.7	4.2	2.7
Activity	.9	1.3	.5	.7	.5	1.2	.5	.8	1.4	1.2	.8	.9
Subjective	.5	.8	1.0	1.0	.9	1.1	1.0	1.3	.7	.8	.9	.9
Ratings of play partner												
Prosocial attributes	4.2	.8	4.7	.4	4.2	.6	4.6	.5	4.1	.5	4.5	.5
Antisocial attributes	1.3	.5	1.3	.4	1.3	.5	1.1	.3	1.4	.7	1.3	.4
Immaturity	1.4	.5	1.5	.6	1.7	.7	1.4	.4	1.6	.5	1.4	.5
Open-end strategy questions												
Information exchange	.5	.8	.2	.5	.7	1.2	.6	1.3	1.3	1.2	.3	.5
Play	2.1	1.3	2.2	1.7	2.0	1.9	1.2	.9	1.7	1.5	1.6	1.6
Ineffective	.6	.9	.5	.9	.8	1.0	.4	.9	.4	.8	.5	.8

(table continues)

	First Grade				Third Grade				Fifth Grade			
	Boys		Girls		Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Multiple-choice strategy questions												
Submissive/unfriendly	1.9	1.6	1.5	1.7	2.3	2.5	1.3	1.4	2.2	1.5	2.1	2.1
Assertive/unfriendly	.8	1.2	.5	.9	.9	1.3	.4	.7	.8	2.7	.5	.9
Assertive/friendly	12.4	2.2	12.9	3.5	11.3	3.6	13.3	2.8	11.7	3.2	12.2	3.6
Submissive/friendly	3.0	1.3	3.0	1.9	3.9	2.3	3.0	2.1	3.3	1.8	3.1	1.6
Rating of own social reputation												
Positive	4.1	.9	4.5	.6	4.2	.7	3.9	.6	3.7	.7	4.0	.5
Negative	2.2	.9	1.9	.8	2.4	1.0	1.9	.8	2.0	.8	2.1	.6

Table 8

Simultaneous Multiple Regression Analyses on Information Recall

Physical Description	Multiple R = .40	$F(8,126) = 2.98$, $p < .01$	
Predictor	β	SE_β	t
Grade	.220	.089	2.45*
Gender	-.049	.082	- .59
Self-impact	.076	.089	.85
Partner-impact	-.184	.089	-2.07*
Self-like-rating	.200	.083	2.40*
Partner-like-rating	-.096	.083	-1.16
Common Activity	-.011	.085	- .13
Information Exchange	.135	.091	1.48
Objective Information	Multiple R = .52	$F(8,126) = 5.78$, $p < .01$	
Predictor	β	SE_β	t
Grade	-.041	.083	- .49
Gender	-.158	.077	-2.05*
Self-impact	-.043	.083	- .52
Partner-impact	-.050	.083	- .63
Self-like-rating	-.005	.078	- .06
Partner-like-rating	.057	.078	.74
Common Activity	-.121	.079	-1.52
Information Exchange	.506	.085	5.94*

*$p < .05$

and Information Exchange score were significant predictors of objective information recall. Because of the way gender was coded on the interview protocols the negative effect of gender means that boys recalled less objective information than did girls.

Prior to analysis of ratings of the partner the 31 rating-scale items were reduced in the same manner as the videotape coding scheme into three clusters labeled Prosocial Attributes, Antisocial Attributes and Immaturity. The items belonging to each group and the part-whole correlations estimated in the confirmatory factor analysis are presented in Table 9. Reliability as assessed by standardized coefficient alpha was .84 for Prosocial Attributes, .74 for Antisocial Attributes and .70 for Immaturity. Scores for these clusters were obtained by computing the average rating for the items in each cluster.

The regression analysis for Prosocial Attributes is presented in Table 10. Gender was the only significant predictor of prosocial ratings of the play partner, with boys rating their partners less positively than girls. The sociometric scores of the children, scores of the dyad on Common Activity and Information Exchange, and the amount of information recalled about the other by the child doing the rating were all of little or no utility in predicting how a child would rate his or her partner on Prosocial Attributes. The multiple correlations for Antisocial Attributes (.22) and Immaturity (.26) were non-significant and none of the individual predictors had significant beta-weights for these clusters.

Cognitive Strategies. Results of the hierarchical regression analysis on Information Exchange Strategies are presented in Table 11.

Table 9

Correlations between Individual Items and Clusters Derived in the Confirmatory Factor Analysis on Ratings of the Play Partner

	Prosocial	Antisocial	Immaturity
Prosocial Attributes			
Leader	.73	-.36	-.39
Helpful	.69	-.33	-.49
Fair	.62	-.30	-.26
Honest	.62	-.41	-.38
Good sense of humor	.58	-.27	-.34
Good ideas	.58	-.27	-.43
Nice	.55	-.33	-.37
Good balance	.52	-.28	-.40
Follows directions well	.49	-.44	-.27
Polite	.47	-.41	-.42
Antisocial Attributes			
Friendly[a]	-.33	.70	.30
Bossy	-.23	.60	.33
Rude	-.54	.59	.35
Cheats	-.15	.58	.23
Shares	-.29	.46	.40
Mean	-.33	.45	.26
Easily upset	-.33	.42	.34
Immaturity			
Acts younger than age	-.08	.29	.53
Dumb	-.36	.43	.50
Hard time paying attention	-.30	.35	.50
Sad	-.26	.20	.49
Clumsy	-.27	.46	.46
Acts age[a]	-.21	.04	.41

(table continues)

	Prosocial	Antisocial	Immaturity
Gets things done[a]	-.47	.26	.41
Restless	-.31	.23	.39
Happy[a]	-.34	.22	.39

[a]Item reverse scored

Table 10

Simultaneous Multiple Regression Analysis on Rating of Prosocial Attributes

Multiple R = .39 $F(10,124) = 2.21$, $p < .05$			
Predictor	β	SE_β	t
Grade	.000	.094	.002
Gender	-.328	.085	-3.86*
Self-impact	.044	.090	.49
Partner-impact	.032	.092	.35
Self-like-rating	-.003	.086	-.04
Partner-like-rating	.118	.085	1.38
Common Activity	.085	.087	.98
Information Exchange	-.085	.105	-.81
Physical description recall	-.038	.093	-.90
Objective information recall	.037	.100	.37

*$p < .05$

Table 11

Hierarchical Multiple Regression Analysis on Information Exchange Strategies

Multiple R = .29 $F(4,102) = 2.40$, $p = .054$

Step	Predictor entered	R^2 increment	β	SE_β	t
1.	Grade	.031	.176	.094	1.87
2.	Gender	.053	-.227	.094	-2.41*
3.	Social impact	.001	-.031	.094	- .33
4.	Like-rating	.001	.032	.094	.34

*$p < .05$

Gender was the only significant predictor, with boys offering more strategies involving the exchange of information than did girls. Examination of the means in Table 7 indicates, however, that size of the effect is trivial. The multiple correlations for Play Strategies (.17) and Ineffective Strategies (.16) were non-significant, as were the multiple correlations for all the multiple choice categories, Submissive/Unfriendly (.21), Assertive/Unfriendly (.17), Assertive/Friendly (.19) and Submissive/Friendly (.15).

Ratings of Own Social Reputation. Multiple correlations for Positive Roles (.27) and Negative Roles (.16) were non-significant. However, Grade did have a significant beta-weight for Positive Roles (-.25, $t = -2.69$), and the zero-order correlation between Grade and Positive Roles was significant ($r = -.25$, $p < .05$), indicating that older children tended to rate themselves lower on positive roles than did younger children.

DISCUSSION

The results of the present study support the contention that the establishment of a common ground activity and the exchange of information are important social processes for children who have just met. As predicted, the exchange of information seemed to become more important with age. This is consistent with the idea that children's criteria for evaluating potential acquaintances change as they grow older (Bigelow, 1977; Furman & Bierman, 1983). The data presented here do not indicate the presence of a severe social deficit for children with low social impact scores, but suggest that such children are able to carry on initial social interactions comparable to those of average children. As such, these results demand that researchers in social relations begin to question the extent to which neglected children constitute an at-risk group and to reconceptualize the status of children classified as neglected.

The measures employed in the present investigation far from exhaust the possibilities, and the model presented is only one of a number which might fit the data. As in all causal analyses, however, the current model must be evaluated in terms of its conceptual plausibility and its contribution to the understanding of the research problem, as well as in terms of satisfaction of statistical criteria.

The model presented here contains four exogenous variables (variables which have no causal antecedents in the model), grade, gender, and the two social impact scores (since the interaction between

social impact scores did not contribute significantly to the regression analyses, the effect of social impact is assumed to be additive). This does not mean that social impact is conceptualized as being without causal antecedents. However, the goal of the study was not to describe the development of social isolation, but to describe the effect of established sociometric indices on neglected and average children's social interactions with a stranger. The model posits a sequence of interaction from Disconnectedness to Common Activity to Information Exchange. This view of Information Exchange as a sort of final criterion variable is consistent with theoretical formulations of friendship in adults (Duck & Craig, 1977, 1978) as well as with empirical work with children (Gottman, 1983; Newcomb & Meister, 1983).

Consider first the relationships between the three observational variables Disconnectedness, Common Activity and Information Exchange. The causal flow runs from disconnected interactions, in which the children are engaged in separate activities, to the establishment of a common ground activity in which the children exchange names, initiate play together and exchange information about the play activity. There is then a direct causal path from Common Activity to Information Exchange, indicating that once a common ground activity is established the children can proceed to the exchange of information about themselves, which Gottman (1983) terms self-disclosure. The negative path coefficient from Disconnectedness to Information Exchange suggests that when children attempt to exchange information without first establishing a common ground activity they meet with failure. This may result in a retreat to the lower risk strategy of establishing a play activity, which in turn allows the successful exchange of personal

information.

There is only one direct path from an exogenous variable to Information Exchange, a fairly strong effect of grade. As hypothesized, older children exchanged more information about themselves than younger children. All other effects of the exogenous variables on the children's interactions are through direct effects on Disconnectedness. None of the path coefficients leading to Disconnectedness are of sufficient magnitude to reach statistical significance. Normal empirical conservativism would lead us to conclude that these relationships are non-existent. It is important to remember, however, that this data comes from a relatively small sample (N=71), and as such contains massive sampling error. Taking the endpoints of the 95 percent confidence interval for Child One's impact score, for example, the true beta-weight in the population is as likely to be -.44 (a substantial effect) as it is to be .04 (an effect which could essentially be regarded as zero). It must also be noted that Disconnectedness, which serves as such a crucial link in the path model, had a generalizability coefficient which, at best, is marginally acceptable. Thus, rather than concluding that social impact has no influence on social behavior, with all the clinical implications that could carry, the more prudent course seems to be to assign all the exogenous variables a place in the present model. Having done that, however, it must be noted that all the observed path coefficients leading to Disconnectedness are small, and that the four exogenous variables together account for only 17.4 percent of the variance in a dyad's Disconnectedness score. The indirect effects of the exogenous variables on Common Activity and Information Exchange would of course be even smaller. Thus, the pragmatic

conclusion seems to be that although social impact cannot be disregarded as a potential influence on behavior in an initial encounter, it is unlikely that children with low social impact scores are severely deficient in this realm.

The results of the hierarchical regression analyses on the observational variables suggest that, at least with the population studied here, sociometric indices are of little utility in predicting isolated social processes. Only in the case of Disconnectedness do social impact and liked-rating account for more than 4 percent of the variance once grade and gender have been partialled out. In the present context it appears that if neglected children do have a social skills deficit it most likely exists as an indirect effect to be explained through the relationships among a number of social-behavioral processes, rather than as the glaring absence of a single class of behavior.

The sociometric indicators were significant predictors of the extent to which children could recall physically descriptive information about their play partners. Recall of such information was increased when the partner had a low impact score and when the child being interviewed had a high liked-rating, as well as when the child being interviewed was from a higher grade level. One possible interpretation of this finding is that low-impact children do not engage in as much personal information exchange, so that physical description is the only kind of information available to be recalled about them, and children with a higher popularity rating are more adept at recalling it. This interpretation is weakened, however, by the lack of a strong positive effect of social impact on either Information Exchange or the recall of Objective Information.

The most powerful single predictor of Objective Information recall was the dyad's Information Exchange score. While this is not surprising, it indicates that not only do children exchange more personal information as they grow older, but children who engage in this process are able to recall such information and thus potentially able to use it in forming a picture of the stranger with whom they have just interacted.

The analysis on the Prosocial Attributes cluster suggests a number of plausible conclusions. One is that the children in this sample did not use information about the play partner in forming their judgements about the rating scale items. Gender was the only significant predictor of Prosocial Attributes, with girls tending to rate their partners more highly than boys. The failure of Information Exchange, Common Activity, or the information recall measures to predict a child's rating of his or her play partner represents a break in the chain of events proposed by Newcomb (1961), Altman and Taylor (1973) and Duck, Miell and Gaebler (1980) whereby individuals must enter into an exchange of information with a potential acquaintance, process that information in some manner, and use the result to evaluate the likelihood that future interactions will the potential acquaintance with be pleasureable. Because of the importance of the issue in describing the process of acquaintanceship in children, this failure merits some consideration.

There are several possible explanations for the lack of empirical support for such a crucial theoretical link. The most readily apparent is that the children in this sample really do not use information about strangers to make judgements about them. It may be that, while these children had reached the point where they could engage in the

social-behavioral process of exchanging information, they had not yet reached a developmental level sufficient to allow them to engage in the social-cognitive process of using that information. While Reaves and Roberts (1983) recently reported that different types of information differentially affected second graders' ratings of the attractiveness of a hypothetical other, it may be that even fifth graders are not yet ready to perform this task in "real" social situations.

An alternate explanation for the failure of information recalled to predict ratings of the play partner concerns the point at which the measurement was taken, immediately after one half-hour of play with a stranger. It may be that the information gathered at that point is insufficient to form a judgement, or it may be that the amount of information was adequate but the amount of time allowed to process that information was too short. Either factor could result in the child's suspending judgement and responding to the rating scale questions in a socially desireable manner. A look at the means and standard deviations for the three ratings clusters, shown in Table 7, reveals that ratings on Prosocial Attributes were almost uniformly high, indicating that most children rated their partners as having those attributes, while ratings on Antisocial Attributes were almost uniformly low, indicating that few children rated their partners as having those attributes. It is also possible that this finding is due solely to the action of social desireability as a demand characteristic of the interview situation. The children may have formed definite opinions about their play partner, but given a socially desireable response anyway.

The sociometric indices were of no utility in predicting any of the cognitive strategies measures or the self-assessment of social

reputation measure. The first finding suggests that neglected children are no less able than average children to offer appropriate strategies for social interaction. The second indicates that neglected children do not feel constrained by their social reputations--they do not perceive themselves differently than do average children. The fact that older children were less likely than younger children to rate themselves highly on positive roles probably reflects an increased ability to differentiate the applicability of the behavioral descriptions to perceived personality attributes, and a decreased tendency to uniformly apply positive descriptors to the self. That is, older children may be more apt to realize that, though they are usually nice they are not always nice, and thus apply a lower rating than younger children, who see themselves simply as nice and apply the highest rating.

The most striking overall finding of this study is the consistent failure of the sociometric indices, especially social impact, to be robust predictors of children's social behavior. Given an opportunity to meet and play with a stranger for 30 minutes, neglected children did not perform in a manner readily distinguishable from their agemates of average sociometric status. Though the validity of this situation as a predictor of performance in real-life social situations has by no means been established, nearly all the dyads in this study successfully engaged in social interaction, and the character of these interactions was by and large overwhelmingly positive. It is clear from these results that neglected children are not grossly deficient in their ability to interact with another child.

It is even more clear from these results that the distinction between neglected and rejected children is a crucial one. The results

obtained in this study indicate that the social behavior of neglected children in an initial encounter is comparable to that of average children. There is some indication that the interactions of low impact children may be more disconnected than the interactions of children of average impact, but the direct effect is a small one and the indirect effects on the establishment of a common ground activity and the exchange of information are even smaller. There is no sign that children with low impact scores engage in the inappropriate behavior which has been found to be characteristic of rejected children (Coie & Kupersmidt, in press; Dodge, Coie & Brakke, in press). To discard the notion that neglected children are at risk for social difficulties clearly would be unwarranted, but evidence is beginning to mount that at the very least these children are at risk for different sorts of difficulties than are rejected children.

Given the present results, and given the findings of other researchers that neglected children are an unstable group that is likely to improve in status over time (Coie & Dodge, 1983), that neglected children have the potential for adequate social adjustment (Coie & Kupersmidt, in press) and that neglected children have adjustment histories comparable to those of average children (Kupersmidt, 1983), it is clearly not enough to declare these children at risk because they have few or no friends. Rather than counting the number of sociometric nominations neglected children have, we must begin to assess the quality of the social relationships they do have.

Miller and Ingham (1976) found that, in adults, two kinds of social support seemed to reduce the likelihood of mild psychological and

physical complaints. Adults who had a either a small number of close friends or a diffuse set of less intimate friends and acquaintances were less likely to evidence symptoms than people without such support. Such tentative findings suggest that we must distinguish between truly close relationships among children and popularity status. A child may have only one friend, who picks him or her consistently on a nomination measure and who is consistently picked in return. Such a child would be classified as neglected. Alternatively, a child may be consistently be picked as a friend by many children, but the group nominating the child may change its membership over time. Such a child would be classified as popular even though he or she may not enjoy an ongoing mutual relationship with any of the nominating children. Another possible pattern is the child who receives no friendhsip nominations but is rated highly on a scale of acceptance. Such a child would be classified as neglected just as the child in the first example. Thus, the neglected group itself may be a heterogenous one. It may contain children who are genuinely shy and/or lonely, children who prefer to stick to one close friend, and children who are loners who get along well with other children but prefer to keep to themselves.

This study also contains implications for the more general scope of social relations research. Just as it is clearly inadequate to classify children's status in the peer group by counting their friends and enemies, it is just as clear that such measures cannot provide adequate capsule descriptions of the social interactions of the children in the various classification groups. The time has come for researchers in this area to take advantage of the more sophisticated techniques of measurement and analysis that have become available. The field has

advanced to the point where simple between-groups analysis of variance on single variables can add little relevant knowledge. It is essential that researchers begin to construct models for assessing social skills. This means first using techniques such as factor analysis to formulate the behavioral processes actually measured by all the behaviors so carefully counted from videotapes, then applying sophisticated algorithms such as path analysis (Hunter & Gerbing, 1982) or full information maximum likelihood techniques such as LISREL (Joreskog & Sorbom, 1978) to begin to clarify the causal relationships governing children's social relationships.

The present study has used a limited array of such techniques to examine a part of the acquaintanceship process in a restricted sample of children. The analyses presented here do not by themselves refute the notion that neglected children are an at-risk group, but they certainly do strongly suggest that neglected children are not uniformly in need of social skills interventions. Before such children can be targeted for intervention a much clearer picture is needed of the ways that all children engage in social relationships.

APPENDIX

Appendix

Demographic and Sociometric Composition of Dyads

Dyad Number	Grade	Gender	Child 1 Impact	Child 2 Like	Child 1 Impact	Child 2 Like
3010	1	F	-1.088	- .113	- .991	- .405
3012	1	F	- .036	- .389	-1.580	.334
3014	1	F	.632	2.091	1.373	- .401
3016	1	F	-1.549	.182	1.691	.533
3020	1	M	.333	.488	-1.169	.405
3022	1	M	.332	.050	.522	.381
3024	1	F	- .170	0	- .181	.851
3026	3	M	.481	.559	1.008	- .098
3032	3	M	- .826	.342	-2.180	- .457
3034	1	M	- .865	- .428	.260	- .943
3038	1	M	-1.767	- .516	-2.134	- .093
3042	1	M	-1.195	.991	.261	.510
3044	1	F	1.017	-1.078	.163	.488
3046	3	F	-1.702	- .185	.390	.046
3048	3	M	-1.586	.127	-1.433	1.559
3050	5	F	-1.824	.686	-2.027	- .016
3052	3	F	.272	- .603	1.347	- .431
3054	3	F	-1.227	.024	- .893	1.038
3056	5	F	-1.257	- .157	- .891	.044
3058	1	F	- .643	.658	- .849	- .527
3060	3	F	.449	- .638	- .768	.015
3062	1	M	- .338	- .171	.354	-1.275
3064	5	M	- .439	1.206	-1.208	.025
3068	3	F	-1.432	.045	- .505	- .098
3070	5	M	- .012	.646	.517	1.285
3072	3	F	- .547	.147	- .611	.340
3074	3	M	.708	- .681	- .411	1.274
3078	3	M	- .145	- .682	- .125	.695
3080	3	F	.744	- .765	- .044	.907
3082	3	M	-1.361	.862	- .030	1.705
3084	5	M	-1.528	.117	-2.065	- .052
3088	5	M	- .028	.577	- .795	.764
3090	3	F	.269	- .923	.864	- .450
3092	5	F	.134	-1.612	-1.812	- .489
3094	3	M	.451	.636	- .562	.766
3096	5	F	- .230	- .224	-1.872	.573
3098	3	F	-1.186	.654	-1.651	.147
3102	5	M	.976	1.167	.798	.892
3104	5	F	- .796	- .607	.073	-1.359
3106	5	F	-1.343	- .034	.419	- .750
3108	5	M	.852	- .360	-1.001	.294
3112	5	M	.419	- .110	.074	.463
3114	5	M	- .413	.052	- .352	- .446
3116	1	M	- .446	.919	-1.384	-1.094
3118	5	M	-1.608	- .127	- .291	.159
3120	5	M	-1.101	.200	-1.418	- .574
3122	5	F	- .868	1.770	- .487	- .515
3124	3	F	-1.167	.238	-1.282	- .255
3126	5	F	-1.070	.914	.471	- .386

Dyad Number	Grade	Gender	Child 1 Impact	Child 2 Like	Child 1 Impact	Child 2 Like
3128	1	F	-1.301	.932	-1.739	- .106
3130	3	M	-1.757	-1.278	-1.009	.408
3132	5	F	.869	.262	.198	.176
3134	3	F	-1.167	1.019	-1.427	- .735
3136	1	F	- .342	- .599	-1.287	1.272
3138	3	F	-1.295	- .480	-1.033	.939
3140	5	F	- .107	1.142	.281	.551
3142	1	M	-1.222	- .611	-1.576	1.468
3144	1	M	-1.222	- .370	1.359	-1.622
3146	5	F	- .891	.176	-1.249	- .055
3148	5	F	.990	.287	- .699	2.080
3150	3	M	-1.125	- .209	- .928	- .965
3152	3	M	- .745	.203	- .569	.228
3154	1	M	-2.246	- .288	-1.053	.145
3158	1	M	-1.551	-1.093	-1.453	.202
3160	1	F	-1.330	1.692	-1.036	-1.762
3162	3	M	-1.471	.960	-1.065	.583
3164	1	F	-1.142	1.312	-1.330	1.061
3166	5	M	-1.150	.885	- .410	.363
3168	1	F	-1.329	- .241	-1.341	- .389
3170	5	M	-1.444	- .916	-1.248	.625
3172	1	M	- .350	.232	- .842	1.956

REFERENCES

REFERENCES

Altman, I., & Taylor, D.A. (1973). Social Penetration: The Development of Interpersonal Relationships. New York: Holt, Rinehart and Winston, Inc.

Asher, S.R., Markell, R.A., & Hymel, S. (1981). Identifying children at risk in peer relations: a critique of the rate of interaction approach to assessment. Child Development, 52, 1239-1245.

Bigelow, B.J. (1977). Children's friendship expectations: a cognitive-developmental study. Child Development, 48, 246-253.

Bukowski, W.M., & Newcomb, A.F. (in press). The stability and determinants of sociometric status and friendship choice: a longitudinal perspective. Developmental Psychology.

Cohen, J. (1960). A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 20, 37-46.

Cohen, J. (1981). Partialed products are interactions; partialed powers are curve components. Psychological Bulletin, 90, 858-866.

Coie, J.D., Dodge, K.A., & Coppotelli, H. (1982). Dimensions and types of social status: a cross-age perspective. Developmental Psychology, 18, 557-570.

Coie, J.D., & Dodge, K.A. (1983). Continuities and change in children's social status. Paper presented at the biennial meeting of the Society for Research in Child Development, Detroit.

Coie, J.D., & Kupersmidt, J. (in press). A behavioral analysis of emerging social status in boys' groups. Child Development.

Conger, J.C., & Keane, S.P. (1981). Social skills intervention in the treatment of isolated or withdrawn children. Psychological Bulletin, 90, 478-495.

Cronbach, L.J., Gleser, G.G., Nanda, H., & Rajaratnam, N. (1972). The dependability of behavioral measurements: Theory of generalizability for scores and profiles. New York: Wiley.

Dodge, K.A., Coie, J.D., & Brakke, N.P. (in press). Behavioral patterns of socially rejected and neglected preadolescents: the roles of social approach and aggression. Journal of Abnormal Child Psychology.

Duck, S., & Craig, G. (1977). The relative attractiveness of different types of information about another person. British Journal of Social and Clinical Psychology, 16, 229-233.

Duck, S., & Craig, G. (1978). Personality similarity and the development of friendships: a longitudinal study. British Journal of Social and Clinical Psychology, 17, 237-242.

Duck, S., Miell, D.K., & Gaebler, H.C. (1980). Attraction and communication in children's interactions. In H.C. Foot, A.J. Chapman, & J.R. Smith (Eds.), Friendship and social relations in children. New York: John Wiley and Sons.

Furman, W., & Bierman, K.L. (1983). Developmental changes in young children's conceptions of friendship. Child Development, 54, 549-556.

Gottman, J.M. (1977). Toward a definition of social isolation in children. Child Development, 48, 513-517.

Gottman, J.M. (1983). How children become friends. Monographs of the Society for Research in Child Development, 48 (3, Serial No. 201).

Gottman, J.M., Gonso, J., & Rasmussen, B. (1975). Social interaction, social competence and friendship in children. Child Development, 46, 709-718.

Gottman, J.M., & Parkhurst, J.T. (1980). A developmental theory of friendship and acquaintanceship processes. In W.A. Collins (Ed.), Minnesota Symposia on Child Psychology. Vol. 13. Hillsdale, N.J.: Erlbaum.

Hartmann, D.P. (1977). Considerations in the choice of interobserver reliability estimates. Journal of Applied Behavior Analysis, 10, 103-116.

Hunter, J.E. (1977). Cluster analysis: reliability, construct validity and the multiple indicators approach to measurement. Paper delivered at a meeting of the U.S. Civil Service Commission Panel on Advanced Statistics, Washington, D.C.

Hunter, J.E., & Gerbing, D.W. (1982). Unidimensional measurement, second order factor analysis, and causal models. In B.M. Staw and L.L. Cummings (Eds.), Research in organizational behavior, (Vol. 4). Greenwich, Conn.: JAI Press.

Hymel, S., & Asher, S.R. (1977). Assessment and training of isolated children's social skills. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans.

Jones, R.R., Reid, J.B., & Patterson, G.R. (1975). Naturalistic observations in clinical assessment. In P. McReynolds (Ed.), Advances in psychological assessment, (Vol. 3). San Francisco: Jossey-Bass.

Joreskog, K.G., & Sorbon, D. (1978). LISREL IV: Analysis of linear structural relationships by the method of maximum likelihood. Chicago: National Educational Resources, Inc.

Kupersmidt, J.B. (1983). Predicting delinquency and academic problems

from childhood peer status. Paper presented at the biennial meeting of the Society for Research in Child Development, Detroit.

Ladd, G. (1981). Effectiveness of a social learning method for enhancing children's social interaction and peer acceptance. Child Development, 52, 171-178.

Miller, P.M., & Ingham, J.G. (1976). Friends, confidants, and symptoms. Social Psychiatry, 11, 51-58.

Newcomb, A.F., & Bukowski, W.M. (in press). A longitudinal study of the utility of social preference and social impact sociometric classification schemes. Developmental Psychology.

Newcomb, A.F., & Meister, J.C. (1983). The initial social encounters of high and low social effectiveness school-aged children. Unpublished manuscript, Michigan State University.

Newcomb, T.M. (1961). The acquaintance process. New York: Holt, Rinehart and Winston, Inc.

Oden, S., & Asher, S.R. (1977). Coaching children in social skills for friendship making. Child Development, 48, 495-506.

Peery, J.C. (1979). Popular, amiable, isolated, rejected: a re-conceptualization of sociometric status in preschool children. Child Development, 50, 1231-1234.

Putallaz, M., & Gottman, J.M. (1981a). An interactional model of children's entry into peer groups. Child Development, 52, 986-994.

Putallaz, M., & Gottman, J.M. (1981b). Social skills and group acceptance. In S.R. Asher and J.M. Gottman (Eds.), The development of children's friendships. New York: Cambridge University Press.

Reaves, J.Y., & Roberts, A. (1983). The effect of type of information on children's attraction to peers. Child Development, 54, 1024-1031.

Renshaw, P.D., & Asher, S.R. (in press). Children's goals and strategies for social interaction. Merril-Palmer Quarterly.

Vaughn, B.E., & Waters, E. (1981). Attention structure, sociometric status, and dominance: interrelations, behavioral correlates, and relationships to social competence. Developmental Psychology, 17, 275-288.

FOOTNOTE

1. Approximately three months after the completion of data collection it was discovered that an equipment malfunction had caused the loss of one videotaped interaction, a pair of third grade boys. Thus, only 71 dyads are included in the data analyses.


MICHIGAN STATE UNIVERSITY LIBRARIES
3 1293 03103 7488