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ABSTRACT

The purposes of this study were to investigate the interrelatedness of several measures of social competence and to determine a valid and practical combination of procedures for assessing social competence in school or clinic settings. A total of 51 sixth-grade children (23 boys and 28 girls) were administered the following measures of social competence: four sociometric questionnaires, a role-playing test, behavior observation in a simulated small-group activity, two teacher rating scales, and three self-report questionnaires (self-concept, empathy, and assertion). In addition, standardized achievement scores and ratings of physical attractiveness were obtained. Intercorrelations among the measures were made. Peer ratings, acceptance nominations, and rejection nominations were employed as criterion variables. For girls, the content of their responses to role-playing scenes, negative behavior interaction, and teacher ratings predicted performance on sociometric measures. For boys, no assessment approach consistently predicted sociometric status. Longer responses to role-playing scenes did correlate with social rejection for boys. Peer ratings of athletic ability correlated with social acceptance ratings for boys and girls. Sex differences in social skills and the importance of determinants of popularity other than social skills are discussed. (Author/RH)

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# A Multimethod Assessment of Children's Social Competence

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Abstract

A Multimethod Assessment of Children's Social Competence

Fifty-one sixth grade children (23 boys and 28 girls) were administered the following measures of social competence: Four sociometric questionnaires, role play test, behavior observation in a simulated small group acitvity, two teacher rating scales, and three self-report questionnaires (self-concept, empathy, and assertion). In addition, standardized achievement scores and ratings of physical attractiveness were obtained. Intercorrelations among the measures are reported. Peer ratings, acceptance nominations, and rejection nominations were employed as criterion variables. For girls, the content of their responses to role play scenes, negative behavior interaction, and teacher ratings predicted the sociometric measures. For boys, no assessment approach consistently predicted sociometric status. Longer responses to role play scenes did correlate with rejection for boys. Peer ratings of athletic ability correlated with acceptance ratings for boys and girls. Sex differences in social skills and the importance of determinants of popularity other thean social skills are discussed.

A Multimethod Assessment of Children's

Social Competence

Social skills refers to a child's ability to engage in those behaviors that elicit reinforcing consequences from an interaction in a manner that is socially acceptable, appropriate, and not harmful to others (Spence, 1981). An adequate means of assessing childrens social competence is important for several reasons. Popular and unpopular children differ in the frequency in which they engage in specific behaviors (e.g., Gottman, Gonso, & Rasmussen, 1975). Problems in social skills and low peer acceptance in the early grades are predictive of many later adjustment problems both in and out of school (e.g., Cowen, Pederson, Barbigian, Izzo, & Trost, 1973; Green & Forehand, 1980). Because various behavioral approaches for improving children's social skills have proven effective in improving children's social behaviors and in increasing peer acceptance (e.g., Gresham & Nagle, 1980; Ladd, 1981), it is important to identify children most in need of social skills training. A child's social competence is an important factor to consider in determining the extent to which a handicapped child is mainstreamed (Gresham, 1983). Children with deficient social skills are more likely to underachieve in school (Cartledge & Milburn, 1978). Finally, valid assessment of social skills should be an integral component of the assessment and diagnosis of emotional disturbance for purposes of special education services (Gresham, 1982).

The remediation of social skill deficiencies has received more attention than has the assessment of social skills. Reviews of social skills assessment (e.g., Cartledge & Milburn, 1980; Green & Forehand, 1980; Gresham, 1981) indicate a variety of assessment procedures are utilized. Although teacher ratings, sociometrics, and direct observation are the most frequent procedures reported in studies of social skills, self-report and role play measures are also employed.

Of particular interest in this study is the validity of a role play procedure. Role play assessment procedures have been increasingly included in the assessment of children's social skills. Bellack (1979) referred to role play tests as the "hallmark of social skills assessment." Advantages of role play include greater ease and better economics, compared to direct observation. Also, role play assessment allows for the identification of particular skills to be taught in social skills training programs. Although role plays offer a promising assessment methodology, studies of role play measures with children have resulted in conflicting evidence of their reliability and validity (Oldendick, 1981; Reardon, Hersen, Bellack, & Foley, 1979; Van Hasselt, Hersen, & Bellack, 1981; Vosk, Forehand, Parker, & Rickard, 1982). One reason for the conflicting evidence is the variety of procedures employed in studies on the validity of role play measures. Role play procedures have included both prolonged (Ollendick, 1981; Van Hasselt, et al., 1981) and brief interactions (Vosk, et al., 1982) and different scenes. Scoring procedures vary greatly and include scoring for content only (Vosk, et al., 1982), for discrete

behavioral response (Van Hasselt, et al., 1981; Ollendick, 1981), and for global ratings of friendliness (Van Hasselt, et al., 1981) or assertion (Ollendick, 1981). Validity has been investigated using a variety of approaches, including correlating discrete behavioral responses with parallel responses in other role plays and in natural interactions and with global ratings of friendliness made from the role plays (Van Hasselt, et al., 1981).

If role plays are valid measures of social skills, performance on role play measures should correlate with external criteria. Sociometric status and naturalistic behavior interactions are generally accepted as the most valid indices of social competence. Van Hasselt, et al. (1981) found no relationship between ratings of friendliness based on role play tests and sociometric ratings or naturalistic behavior interactions. Vosk, et al. (1982) found popular and unpopular children do not differ in the content of their role play responses. Ollendick (1981) found global ratings of assertion on role plays did not correlate with naturalistic behavior interactions but did correlate with peer nomination sociometric scores for girls, but not for boys.

Although the studies on the validity of role plays have used different procedures, they have all used adult models to deliver the prompt to which the child responds. It is reasonable to expect that children's responses to a peer model would be more predictive of their interactions with children.

The purpose of this study were to determine the interrelatedness of several measures of social competence and to determine a valid and practical combination of procedures for assessing social competence in school or clinic settings.

## Method

### Subjects

All children from three sixth grade classes in a small town school in southwest Virginia for whom parental permission was obtained participated in the study. Of a possible sixty-six children, parental permission was obtained for fifty-one children (23 boys and 28 girls). The sample was predominantly white and represented a cross-section of socioeconomic levels.

### Procedures

Behavioral assessment included observation of children in a simulated small group setting and in role plays. Four sociometric questionnaires, two teacher ratings, three self-report questionnaires (self concept, empathy, and assertion), standardized achievement scores, and ratings of physical attractiveness were also obtained. The sociometric questionnaires and role plays were administered in mid-December, before the Christmas vacation, and the other measures were administered between mid-January and mid-February. Separate individuals rated behavior interactions, role play performance, and physical attractiveness and did not know the children's scores on any other measure.

Measures

Sociometrics. All children (37 girls and 29 boys) in the three classrooms completed four sociometric questionnaires. Both peer ratings and peer nominations were used because they measure different aspects of social status (Gresham, 1981b).

Play with rating. Each child rated his or her same sex, same class peers on a five point Likert scale with the "play with" criterion. Each child's score was his or her average rating received.

Peer nomination. Each child was asked to list three same sex children whom they like the most. Because the children in the three classrooms (homerooms) intermingled for various subjects, children were instructed to list children from any of the three classes. A child's score was the total number of nominations received.

Rejection nomination. Each child was asked to list three same sex children in any of the three classes whom they like the least.

Athletic rating. Because athletic ability has been found to be correlated with sociometric status (Asher, Oden, & Gottman, 1977; McGraw & Tolbert, 1953), each child was asked to rate his or her same sex, some class peers on a five point Likert scale according to "how good he/she is in sports." This rating was used as a measure of athletic ability rather than as a measure of popularity.

Teacher ratings. Each teacher rated children in his or her class with the 11 item AML (Cowen, Door, Clarfield, Kreling, McWilliams,

Pokracki, Pratt, Terrell, & Wilson, 1973). Using a 5 point Likert scale, the teacher rates each child on the 11 behavioral descriptions that cover aggressiveness, moodiness, and learning problems. A high score means more problems. Ollendick (1981) found that the AML correlated significantly with role play assertion and with positive interactions in a simulated setting. Because the three teachers' mean ratings on both the AML and the 100 point scale (below) were different, the ratings were standardized for each classroom. The school principal described the student composition of the homerooms as "nearly identical," so different teacher mean ratings were probably not the result of real differences in children in the homerooms.

100 point scale. Teachers rated each child in his or her homeroom on a 100 point scale according to "how well this child interacts with children his/her own age in ways that are personally satisfying, effective, and mutually rewarding." A high score indicated social competence.

Behavior interaction. Groups of four same sex children (one group had five children and one group had three children) were videotaped during a craft activity. Each group of four children consisted of two children whose play with ratings were above his or her class mean and two children whose play with ratings were below the mean. The two high accepted children were from separate classrooms, as were the two low accepted children. The five and three member groups also included as even a distribution of high and low accepted children as possible and represented at least two classrooms. The children were

seated at a rectangular table in a small room. The experimenter told the children the following: "We asked you here today to help us in our study of creativity. There are art and craft supplies on the table. Please make whatever you like with these supplies. Work alone or with one or more other children. The camera is on to help us learn about how kids go about working together and about creativity. You have 20 minutes to complete your project. Remember, you can work alone or together and make anything you like."

Observations were made from the videotapes. Each child was observed for the length of the activity (16-20 minutes). The observation code consisted of thirteen categories of behavior. There were 5 negative categories (aggressive, manipulating, criticizing, interferring, and rejecting), three positive categories (seeking assistance, giving assistance, and approval) self directed nonverbal participation, verbal participation, withdrawal, and assertive behavior. The observer coded each child's behavior at ten second intervals, using an audiotaped "beep" prompt. At the sound of each beep, the observer determined which category of behavior best described the target child's most salient behavior during the preceeding seven second interval (three seconds were used to record). If a negative interaction occurred during that interval, the negative behavior was coded, even if it did not last for a majority of the interval. Similarly, if one of the three positive interaction categories occurred during the interval, the positive interaction was coded, even if it did not last for a majority of the interval. If a positive and a negative interaction

both occurred, the negative interaction was coded. Because the length of the observations varied, total scores for each category were converted to percentages of total interactions. Two observers were trained for six hours in the observational code. For purposes of data analysis, one trained observer coded each child's interactions. For purposes of establishing interrater reliability, the second trained observer coded 28 randomly selected target children's interactions. For purposes of improved interrater reliability, the five negative interaction categories were combined into negative interaction and the three positive categories plus verbal and nonverbal participation were combined into positive interaction. The resulting reliabilities (Pearson p.m. coefficients) were .88 for negative interaction, .96 for self-directed (on task) behavior, .90 for positive interaction, and .88 for withdrawal.

Role play assertion. Role play assertion was measured with the Behavioral Test of Interpersonal Competence for Children (BTICC) (Hughes, Note 1). The BTICC consists of 24 videotaped scenes. Each scene includes a brief narration and a prompt delivered by a same-sex child. Ten seconds are allowed for the child to respond before the next scene is presented. The two girls on the female version of the audiotaped test and the two boys on the male version of the test were between the ages of 9 and 12 and were not professional child actors and were not known by the children in the study. The 24 scenes assess 12 positive assertion skills (e.g., giving a compliment, offering assistance, expressive positive feelings toward another) and 12 negative assertion skills (e.g., responding to unfair criticism, denying

an unreasonable request, accepting blame). The skills were selected based on definitions of assertiveness common in the literature (e.g., Bornstein, Bellack, & Hersen, 1977) and on research demonstrating behaviors that differentiate popular and unpopular children (e.g., Charlesworth & Hartup, 1967; Gottman, Gonso, and Rasmussen, 1975; Ladd and Oden, 1979). The 24 scenes were selected from 30 scenes that were presented to 16 elementary school teachers and guidance counselors who judged each scene on "how realistic each situation is for elementary school children to encounter." On a five point Likert scale, with 5 being "very realistic," only skills with a mean rating higher than 3.5 were selected.

Children were tested individually in a small room and were given the following instructions: "I want to know what you say and what you do in some everyday situations -- how you act when certain things happen. So I need you to pretend some for me. You know how to pretend, don't you? Sure you do. Let's pretend we're eating an ice cream cone, on a hot summer day. (Examiner joins in.) You pretend you're playing basketball. Good. Now let's play baseball. Good.

Now I want you to watch and listen to this television monitor. You will see some children who will say something to you. First, you will hear an adult voice that will tell you what has just happened, and then the boy or girl will say something. I want you to pretend that what has just happened has happened to you and that the child on the T.V. is talking to <u>you</u>. After the child on the T.V. monitor says

something, you say or do whatever you really would if that happened to you. Pretend you are talking to the child on the monitor." Children received generous praise for their effort and cooperativeness.

Each role play skill was assessed on content and five discrete skill components: voice, eye contact, body, latency, and duration. Scoring components were selected on the basis of research showing the relationship between these discrete components and global ratings of assertion or friendliness (Spence, 1981, Reardon, et al., 1979). The content of role play responses has been found to correlate with sociometric status (Gottman, Gonso, & Rasmussen, 1975; Hughes, Note 1). Specific scoring criteria for each component are included in Appendix 1. Content received a score of 2, 1, or 0 based on scoring criteria that differed for the different skills. These scoring criteria were selected on a rational basis. Also, 16 elementary school teachers and counselors evaluated examples of 2, 1, and 0 credit responses to each scene in terms of appropriateness and effectiveness for upper elementary school children, and these ratings were employed in revising the credit given to each response.

The children were audiotaped while taking the BTICC. Content was scored by transcripts. Voice was scored from the audiotapes. A mean positive duration and latency was obtained from the audiotapes. Eye contact, body, and smiles were scored during the administration of the BTICC.

Two observers administered and scored the BTICC. These observers were trained in the rating system for four hours. Interrater

reliability was established for each scoring criterion (except duration and latency) on four videotaped administrations of the BTICC using the formula:

$$\% \text{ agreement} = \frac{\text{number of agreements}}{\text{number of agreements plus number of disagreements.}} \times 100$$

Interrater reliabilities were 93% for content, 88% for voice, 97% for eye contact, 96% for body, and 79% for smiles.

Each observer scored all 50 transcripts (one child absent for BTICC) and audiotapes for content and voice and achieved an interater reliability of 90% for content and 78% for voice. For purposes of data analysis, where scoring differences occurred, the child was given the average rating of the two observers. Due to a disproportion between the two observers for their mean scores for body, the body scores were eliminated from further analyses.

Each child received a total content, voice, eye contact, smiles, latency, and duration score for the positive scenes and a total content, eye contact, latency, and duration score for the negative scenes.

Self report assertion. A paper and pencil multiple choice version of the role play test was administered to each child between four and six weeks after the role play. Each of the 24 items included a printed narration and prompt and three response options that were scored 2, 1, or 0, according to the scoring criteria for the role play responses. Boys were presented with the male version, which described interactions with boys, and girls were presented with the female version.

For each skill, a scene was described and a prompt given. The child selected which one of three responses he would really say, if that happened to him. The response options represented 2, 1, and 0 credit responses.

Self-esteem. The general self-esteem scales of the Perceived Competence Scale for Children (Harter, 1979) was employed as a measure of self-esteem. This sca and the empathy scale (below) were included because studies that have used behavioral measures of social skills have rarely included measures of social cognition.

Empathy. Bryant's (1982) Index of Empathy for Children and Adolescents was employed to determine the relationship between empathy and other measures of social competence.

Achievement. Each child's composite national percentile scores from the SRA Achievement Battery was converted to a standard score and used as an index of scholastic achievement.

Physical attractiveness. Two female graduate students rated each child on a 1-5 point scale on overall physical attractiveness. Children were rated in terms of handsomeness (boys) or prettiness (girls) according to commonly held definitions of those terms. The rating represented that child's percentile ranking for physical attractiveness in the general popular with scores of 1 indicating 1-20 percentile, 2 indicating 21-40 percentile, 3 indicating 41-60 percentile, 4 indicating 61-80 percentile, and 5 indicating 81-100 percentile. Interrater reliability (percent agreement) was 85%. The two raters

never disagreed by more than one category on the scale. For purposes of data analysis, in those cases where the two raters disagreed, the child was given the average of the two ratings.

## Results

Due to different mean scores on several measures and to research indicating sex differences on measures of social interaction (e.g., Ollendick, 1981), the results are analyzed separately for boys and girls.

Sociometrics. The relationships among the sociometric measures are presented in Table 1 (boys) and Table 2 (girls). Athletic roster was included to obtain a measure of athletic ability instead of peer acceptance (i.e., likability or friendships). The very high correlation between athletic rating and play with rating for girls ($r = .83$, $p < .001$) and the significant correlation between athletic rating and play with rating for boys ($r = .49$, $p = .018$) is surprising. This relationship may be due, in part, to the similarity in method (roster rating) and to the fact that both ratings were obtained at the same time. In correlational analyses reported below, athletic rating is not included as a dependent variable. Play with ratings and peer acceptance and rejection nominations were chosen as dependent variables due to the substantial research indicating very good reliability and validity for these measures (e.g., Gresham, 1981b).

TABLE 1

Intercorrelation Matrix for Sociometrics
Boys

| | Play with Rating | Athletic Rating | Acceptance Nomination | Rejection Nomination |
|---|---|---|---|---|
| Play with Rating | | .49* | .32 | -.55** |
| Athletic Rating | | | .39 | -.19 |
| Acceptance Nomination | | | | -.08 |
| Rejection Nomination | | | | |

*$p < .05$.

**$p < .01$.

TABLE 2

Intercorrelation Matrix for Sociometrics
Girls

| | Play with Rating | Athletic Rating | Acceptance Nomination | Rejection Nomination |
|---|---|---|---|---|
| Play with Rating | | .83* | .56** | -.36 |
| Athletic Rating | | | .52** | -.33 |
| Acceptance Nomination | | | | -.11 |
| Rejection Nomination | | | | |

* $p < .001$.

** $p < .01$.

Role play. The relationships between the components of the role play test and the three sociometric measures were determined. For girls, positive content on the role plays correlated significantly with the play with ratings ($r = .64$, $p < .001$), peer nominations ($r = .40$, $p = .04$) and rejection nominations ($r = -.43$, $p = .03$). The only additional scoring component of the role play test to correlate significantly with any of the sociometric measures was negative content, which correlated significantly with play with ratings ($r = .43$, $p = .03$). There were many significant intercorrelations among scoring components, suggesting that the role play test measures some fairly unitary ability. Perhaps it measures acting ability. However, apart from the content of the response, the ability measured by the role play test is not related to peer acceptance. Three separate step-wise multiple regression analyses were employed with the three sociometrics as dependent variables. Multiple regression is more appropriate than simple correlations when selecting the best combination of variables to predict a criterion because it takes into consideration the inter-relationships among the variables. Using play with ratings and peer nominations as the criterion (dependent) variables and all the role play components as independent variables, the only component to enter into the equation was positive content. The absence of negative content in the equation to predict play with ratings suggests that negative content does not add significantly to the predictions of play with ratings beyond the prediction based on positive content alone.

Employing rejection nomination as the criterion measure, two components contributed to the prediction: positive content (MR = -.43) and negative voice (MR = -.59).

For boys, a different pattern of relationship between the role play components and sociometrics was obtained. Positive content did not correlate significantly with any of the sociometric measures. The only significant correlation between components and sociometrics were positive latency with acceptance nomination ($r = -.50$, $p = .02$); negative voice with rejection nomination ($r = -.46$, $p = .03$); and negative duration with rejection nomination ($r = .51$, $p = .01$). Boys who had high rates of rejection tended to give longer responses to negative assertion scenes. A look at the transcripts of boys who received high rejection scores showed that these boys gave lengthy but inappropriate (i.e., aggressive or irrelevant) responses to the negative assertion scenes. As for girls, there were numerous intercorrelations among the scoring components of the role play test.

Separate step-wise multiple regression analyses were performed with the three sociometric measures as criterion variables and all role play components as independent variables. No variables entered into the equation for play with ratings. Only positive latency entered into the equation for acceptance nomination. Negative duration (MR = .51) and positive duration (MR = .68) entered into the equation in predicting rejection nomination scores.

Behavior Interaction

Mean scores and standard deviations for girls and boys are presented in Table 3. For girls, the only behavior interaction category to correlate significantly with sociometric measures was negative interaction, which correlated with rejection nomination ($r = .59$, $p = .003$). For boys, there were no significant correlations between behavior interactions and sociometric measures

Intercorrelation Matrix

The intercorrelations between the various measures of social competence are included in Table 4 (boys) and Table 5 (girls). Only those components of the role play test and the behavior interactions that entered into the multiple regression equations to predict one of the sociometric measures were included in the matrix. Thus, for boys, three scores from the role play test (negative and positive duration and positive latency) and no scores from the behavior interactions are included. For girls, positive content from the role play test and negative interaction were included.

For boys, neither teacher ratings (AML or the 100 point scale), self-report measures of esteem, empathy, or assertion, SRA achievement scores, nor physical attractiveness ratings correlated significantly with sociometric measures. The significant correlations included achievement scores with the 100 point scale ($r = .55$) positive self-report assertion with role play negative duration ($r = -.44$) and with achievement ($r = -.44$), and negative self-report assertion with the AML ($r = -.42$) and the 100 point scale ($r = .55$). The AML, a checklist

TABLE 3

Behavior Interactions

| | Girls | | Boys | |
|---|---|---|---|---|
| | $\bar{X}$ | SD | $\bar{X}$ | SD |
| Negative Interaction | 8.42 | 12.32 | 18.48 | 14.31 |
| Positive Interaction | 62.75 | 16.71 | 57.19 | 17.80 |
| Self-direction | 25.13 | 17.70 | 21.43 | 14.77 |
| Withdrawn | 3.0 | 5.50 | 3.48 | 10.66 |

TABLE 4

Intercorrelation Matrix for Boys (n=23)

| | Sociometrics | | | Role Play | | | Teacher Ratings | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measures | PWR | Acceptance | Rejection | Neg Dur | Pos Dur | Pos Lat | AML | 100 Pts | Self Esteem | Empathy | Attractiveness | SRA | SR Assert P | SR Assert N |
| Sociometrics | | | | | | | | | | | | | | |
| PWR[a] | - | .32 | -.55** | -.41 | -.30 | -.20 | -.01 | .32 | .29 | -.13 | .25 | .04 | .04 | -.09 |
| Acceptance | | - | -.08 | -.12 | -.15 | -.50* | .20 | .32 | .24 | .19 | .17 | .24 | .10 | -.04 |
| Rejection | | | - | .51* | .24 | .09 | .15 | -.20 | .15 | -.06 | -.07 | -.23 | -.03 | -.36 |
| Role Play | | | | | | | | | | | | | | |
| Neg. Dur[b] | | | | - | .87*** | .06 | .00 | .05 | .17 | -.13 | .01 | .29 | -.44* | -.23 |
| Pos. Dur | | | | | - | .22 | .06 | .01 | .12 | -.28 | .22 | .41 | -.43 | -.24 |
| Pos. Lat | | | | | | - | -.24 | -.20 | .23 | -.30 | .14 | -.18 | .19 | .04 |
| Teacher Ratings | | | | | | | | | | | | | | |
| AML | | | | | | | - | -.34 | .16 | -.23 | .07 | -.00 | .16 | -.42* |
| 100 Pt | | | | | | | | - | .33 | .06 | -.03 | .55* | -.22 | .55** |
| Self Esteem | | | | | | | | | - | -.19 | .33 | .27 | -.12 | -.11 |
| Empathy | | | | | | | | | | - | -.13 | .16 | -.06 | .16 |
| Attractiveness | | | | | | | | | | | - | .04 | .01 | -.13 |
| SRA | | | | | | | | | | | | - | -.44* | .06 |
| SR Assert P | | | | | | | | | | | | | - | .14 |
| SR Assert N | | | | | | | | | | | | | | - |

Notes: [a] Abbreviations are PWR = Play with ratings; Neg Dur = Negative duration; Pos Dur = Positive duration; Pos Lat = Positive latency; SR Assert P = Self report assertion-Positive; SR Assert N = Self report assertion-Negative.

b Only those components of role play test that correlated significantly with the sociometrics are included in matrix. Because no behavior interaction observations correlated with sociometrics, they are excluded from matrix.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

of problem behaviors, did not correlate significantly with the 100 point scale, a rating of overall social competence. Another unexpected result was the lack of a significant correlation between positive and negative self report assertion.

For girls, teacher ratings on the AML correlated significantly with rejection ($r = .55$) and with positive content on the role play ($r = -.41$). Teacher ratings on the 100 point scale correlated with play with ratings ($r = .53$), acceptance nominations ($r = .47$), positive content ($r = .51$), and the AML ($r = -.52$). Other significant correlations included SRA achievement scores with play with ratings ($r = .46$), positive content ($r = .45$), and the AML ($r = -.45$); positive self report assertion with physical attractiveness ($r = .51$); and negative self report assertion with empathy ($r = .48$).

To determine the best combination of measures to predict sociometric status, separate multiple regression analyses were performed for boys and girls with the three sociometric measures as criterion measures. In no case did more than one variable enter into the equation; thus, the simple correlations provide the best information on which variables predict sociometric status.

## Discussion

For girls and for boys, rejection nominations are significantly related to play with ratings but not related to peer acceptance nominations. Gresham (1981b) suggests that play with ratings measure likability and peer acceptance nominations measure friendships.

Children who have few friends may not be actively rejected. Children who receive low play with ratings and/or high rejection nominations are probably more in need of social skills training than are children who receive low peer acceptance nominations.

The intercorrelation matrices contain several interesting results. The content of girls' responses to the role play scenes, especially to positive assertion scenes, predicts all three sociometric criteria. Content is the easiest component of the role play to score. Criteria for scoring content are explicit, and interrater reliability was good (percent agreement of 90%). Because the format for this role play test did not require a live model, it should be easier to administer it in school or clinic settings, as long as a videotape monitor is available to present the taped test. The evidence for validity of the role play test for boys is much weaker. Rejected boys did tend to give longer responses to the role play scenes. An analysis of their responses suggests that their rejection may be a result, in part, of their negative interactions rather than a result of withdrawal. Encouraging these rejected boys to participate more would, perhaps, not improve their acceptance as much as teaching them to inhibit aggressive and irrelevant social behaviors.

The overall failure to find consistent relationships between role play behaviors and sociometric measures for boys, but to find a consistent relationship between girls' content to role play scenes and sociometric measures suggests that socially effective responses for girls may not be effective for boys. The criteria for scoring the

content of responses were based on assertion literature with adults and on adults' perceptions of effective responses for children. This approach may lead to a valid scoring system for girls but not for boys. In subsequent studies, scoring criteria should be selected on an empirical basis by determining which responses differentiate popular and unpopular boys and girls.

In general, the assessment of girls' social competence is easier than the assessment of boys' social competence. Teacher ratings predicted girls' sociometric status but did not predict boys' status. Negative interactions correlated with rejection nominations for girls but not for boys. It may be that negative behavior (e.g., aggression, negative teasing, interferring, negative attention seeking) are more acceptable for boys than for girls. For girls, rejection is more the result of negative interactions than of low levels of participation. The behavior interaction observations occurred in a simulated versus a natural setting. The children's interactions may not represent their interactions in a natural setting.

Researchers have suggested determinants other than social skills are related to peer popularity (Asher, et al., 1977). Three determinants were explored in this study: athletic status, physical attractiveness, and scholastic achievement. Only athletic status correlated significantly with measures of popularity. The very high correlation between athletic status and popularity may be due to the similarity in method and timing of the measure of athletic status and popularity;

nevertheless, the size of the relationships (e.g., athletic ratings correlated .83 with play with ratings for girls and .49 with play with ratings for boys) suggests that more than similarity of method and timing is responsible for the obtained correlations. This relationship should be explored using an independent index of athletic ability. Perhaps the suggestion by Van Hasselt, et al., (1981) that training in sports might be an effective way of improving social acceptance should be seriously considered.

The measures of empathy and self-esteem did not correlate significantly with sociometric status. For girls, behavioral assessment of social skills (i.e., role play and behavior interaction) and teacher ratings of behavior are valid assessment approaches. For boys, no assessment approach consistently predicted sociometric status.

# APPENDIX 1

## General Scoring Instructions

Each role played skill is assessed on four skill components: appropriate content, eye contact, voice, and body (posture and facial expression). The scoring criteria for each component are discussed below.

Content. Of course, the appropriate verbal content will differ in different interpersonal encounters. Each response is given a content score of 0, 1, or 2. The specific criteria for each BTICC item are described on the following page.

Voice. Voice is scored as 0 or 1 for each item. To obtain a score of 1, the voice must have the appropriate intonation, fluency, and volume. If one of these is inappropriate, the response earns 0 points.

Eye Contact. If eye contact occurs at least 50% of the time during the delivery of the response, eye contact earns 1 point. If it occurs less than 50% of the time during the delivery of the response, eye contact earns 0 points.

Body. Body is scored as 1 or 0 for each item. Body earns 1 point if the person has a relaxed but alert posture and is free of nervous mannerisms (e.g., twisting hands, swinging back and forth, scratching).

Smiles. Score 1 or 0 for positive scenes only on an occurrence/non-occurrence basis.

In addition to scoring these five components, the examiner records the duration of the response in seconds and the latency of the response in seconds. Latency is defined as the seconds between the end of the prompt and the onset of the response. Duration is defined as the seconds between the onset of the response and the end of the response.

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