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DEVELOPMENT OF A SOCIAL COMPETENCY SCALE FOR PRESCHOOL CHILDREN. FINAL REPORT.

BY- LEVINE, SAMUEL ELZEY, FREEMAN F.
COLUMBIA UNIV., NEW YORK, TEACHERS COLLEGE

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A SOCIAL COMPETENCY SCALE DESIGNED TO RATE PRESCHOOL CHILDREN AGED TWO YEARS, SIX MONTHS THROUGH FIVE YEARS, SIX MONTHS WITHIN A NURSERY SCHOOL CONTEXT WAS DEVELOPED AND STANDARDIZED. AFTER EXTENSIVE OBSERVATIONS OF PRESCHOOLERS, DISCUSSIONS WITH PRESCHOOL PERSONNEL, AND REVIEWS OF AVAILABLE MATERIAL THE FIRST FORM OF THE SCALE WAS WRITTEN, BASED ON CERTAIN PREDETERMINED CRITERIA. THE SCALE ITEMS WERE INITIALLY JUDGED BY GROUPS OF PRESCHOOL TEACHERS AND TEACHER EDUCATORS WHO RANKED ITEMS IN TERMS OF THEIR IMPORTANCE IN REGARD TO CHILDREN'S SOCIAL COMPETENCE. AN INITIAL SAMPLE OF 1165 CALIFORNIA CHILDREN WERE RATED, AND 30 ITEMS WERE SELECTED FOR THE FINAL SCALE FORM. A REPRESENTATIVE SAMPLE OF CHILDREN IN NURSERY SCHOOLS THROUGHOUT THE UNITED STATES PROVIDED THE NORMING POPULATION. TEACHER RATINGS WERE OBTAINED FOR 800 CHILDREN, EQUALLY DISTRIBUTED BY AGE (2, 3, 4, AND 5), SEX, AND OCCUPATIONAL LEVEL (LOW AND HIGH). STATISTICAL TREATMENT OF THE DATA BY A THREE-WAY ANALYSIS OF VARIANCE INDICATED THAT THE SCALE RELIABLY DISCRIMINATED BETWEEN VARIOUS AGE GROUPS. F RATIOS FOR THE MAIN EFFECTS WERE SIGNIFICANT BEYOND THE .01 LEVEL. NONE OF THE INTERACTIONS WAS SIGNIFICANT. SEPARATE NORMS WERE MADE FOR EACH OF THE FOUR AGE GROUPS BY SEX AND OCCUPATIONAL LEVEL. APPENDICES INCLUDE THE RATING SCALE WITH ITEM RATING PERCENTILES AND NORMING PERCENTILES. (MS)

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Final Report

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DEVELOPMENT OF A SOCIAL COMPETENCY
SCALE FOR PRESCHOOL CHILDREN

Samuel Levine
Horace Mann-Lincoln Institute
Teachers College

Freeman F. Elzey
San Francisco State College

Teachers College
Columbia University
New York, N. Y.

February, 1968

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SUMMARY

The investigators standardized a social competency scale for preschool children aged 2 years 6 months through 5 years 6 months. The scale is designed for rating preschool children within the context of the nursery school and the data reported herein are based on teacher ratings.

To insure content validity, extensive observations were made of preschool programs, each item was judged by groups of preschool teachers and teacher educators, and the literature and tests on social behavior were scrutinized.

The analysis of the initial form of the scale was based on 1,165 ratings obtained from a variety of programs in California and representing all economic levels. The final form of the scale was normed on a representative sample of preschool children from all areas of the United States. Ratings were obtained for 800 preschool children; 50 for each age, sex, and occupational level.

The statistical data indicated that the scale reliably discriminates among the various age groups included in the study. A three-way analysis of variance of the social competency scale scores was conducted for the variables of sex, chronological age, and occupational level. All of the F ratios for the main effects were significant beyond the .01 level. None of the interactions were significant. Separate norms are presented for each of four age groups by sex and occupational level.

Three types of reliability data are reported: agreement among independent raters, test-retest, and odd-even correlation coefficients. In general these coefficients ranged between .80 and .95.

The norm tables permit the user to determine the percentile rank for a preschool child of a given age, sex, and occupational level. The scale should be useful in comparative studies of preschool interventions on social competence. Further, the scale permits the measurement of an important dimension of behavior that may be useful in predictive studies of school achievement.

INTRODUCTION

The necessity for knowledge regarding the growth and development of the preschool child has been emphasized increasingly in recent years. Along with concern for the preschool child's cognitive and language development, considerable emphasis has been placed on the importance of the child's social competence and social development. The primary interest in constructs relating to the personal and social development of the child is their applicability to personality and mental development, as well as socialization processes.

The importance of environmental variables in understanding individual variation and environmental encounters in the intellectual and personal development of the child have been stressed (5,17). The evaluation of the child's social competence, if put within the context of specific environmental demands, would permit the study of those mental processes most related to specific requirements of society during childhood. Social competence is seen to be more functionally related to specific cultural experiences than the tasks typically included in intelligence tests, which are designed to measure generalized processes.

Insofar as environmental factors are assumed to be related to the individual's functioning, the behaviors used to measure social competence should be situational in nature. Further, these behaviors should be selected in terms of common cultural expectations and be basic competencies to be developed in the process of socialization. This requires an adequate sampling of behaviors expected of the preschool child that are equally common to and equally important to all socio-economic groups. The nature of the social competency items, then, would not leave such a scale open to the same criticism regarding the "equal opportunity to learn" assumption that has been frequently leveled against tests of intelligence (8,2,26).

Marshall and McCandless (23) believe that the measurement of social participation is crucial not only for its own practical importance, but because adequate techniques of measurement may permit investigations of factors influencing the development of social behavior and personality. Further, they state, that the increase of knowledge and development of theory in the area of social behavior depend on the accuracy and reliability and usefulness of measures of social behavior. Lambert (20) states that next to children's motives, interpersonal behavior is the most tangled and difficult area of study in all of child development.

Wittenborn (29) decries the lack of instruments for the measurement of the child's social and personal behavior:

The aspect of the child's development most difficult to evaluate are those commonly designated as social and personal. Most of the devices that are available for evaluating a child's social and personal development have been prepared in clinical situations for the intensive evaluation of a given individual. They are not of such a nature as to permit the gathering of standard information for large numbers of children (p. 73).

An understanding of the social development of the child and the factors that contribute to this process are vital to the educator. A carefully constructed scale of social competence would make an important contribution to the field of education. A behavioral scale for the measurement of social competence would (a) provide a relative index of the child's abilities permitting comparisons with children of the same age and sex, (b) permit the investigation of the effects of environmental and characterological variables on the child's development at differing ages, (c) be useful in predictive studies of school achievement, (d) be helpful in the evaluation of deviant groups, and (e) be useful as a criterion measure of the effectiveness of different interventions at the preschool level.

OBJECTIVES

The purpose of this study was to develop a social competency scale that reliably discriminates among preschool children aged 2 years 6 months through 5 years 6 months.

.. REVIEW OF LITERATURE

The review of literature will be concerned with two aspects of social competence; its definition and a brief analysis of existing scales.

Concepts of social competence

Malley (22) defined social behavior in terms of adjustment which she says is highly related to emotional and personality factors. This behavior develops, she believes, in part because of maturation, and in part is due to experience and direct teaching. Joel (18) defines "Behavioral Maturity" as "grown-

upness, the opposite of childishness, or more specifically as the relative degree of independence, self-control, and social attitude reached (p. 164)." Although he did not indicate a clear opinion on the genesis of this behavior, it is apparent from his research that whatever he is measuring varies with chronological age and with experience. The socially mature child, Patterson (25) suggests, is one who is independent and self-sufficient as indicated by his ability to care for himself in necessary routine matters. Doll (10) believes social maturity to be "the developmental evolution of behavior as revealed by the integrated expression of experience and learning for successive stages of adequacy in personal independence, interpersonal cooperation, and group responsibilities (p. 55)."

Explicit in all of the above definitions is the concept of independence. Child (7) specifically points to the expectation of the older child to be more independent than the young child. He states:

The diminishing dependence of the child as he grows older must be in considerable part a result of the positive development of more independent modes of responding to the same situation which formerly elicited dependent reactions (p. 674).

The fact that a child who no longer requires parental help and direction in caring for himself is more independent than the child who must receive parental direction in performing, does not postulate a dependency-independency continuum. Beller (4) questions the assumption of bi-polarity in the construction of measures of dependency and independence. Heathers (15) found the correlation between emotional dependence to be positive, zero, or negative depending on the variables being correlated. He concludes, "The evidence of this study contradicts the view that emotional dependence and independence are opposite ends of one continuum (p. 52)." However, Beller (4), Heathers (15), and Gewirtz (14) do postulate an independence drive. The expression of this drive is evidenced in the child assuming increased personal and social responsibility which is here termed social competence.

An issue in the definition of social competence is its genesis. The universality and inevitability of developmental stages in regard to social behavior are questioned by Stendler and Young (27). Their thesis is that such stages are due to the socialization process which gets changed in important ways by experience. The Gesell and Ilg (13) position states that developmental trends and fluctuations seen in the young child

"are not the product of the contemporary environment; they are primarily the expression of the ancient processes of evolution.... In some condensed way the child must retroverse these immense ages....In the vast complexities of his nervous system he matches the vastness of his ancestral past (p. 13).

The development of Doll's thinking is perhaps indicative of the general trend away from an essentially genetic point of view in regard to social maturity. His earlier point of view, in referring to the Vineland Social Maturity Scale, states: "The item maturation curves reveal the optimum periods for instruction -- the "psychological moments" before which instruction is futile, after which it may be irrelevant, and during which it most effectively capitalizes innate development (9, p. 57)." Later, Doll (10) related the concept of social maturity to all factors that influence the development of the individual:

This concept postulates at all points a relation between constitutional aptitudes and environmental activity and assumes that deviation or variation from the normal in these respects, whether arising from physical, mental, or social causes, is ultimately mirrored in some measurable increase, decrease, or other modification of social competence (p. 2).

Patterson (25) argues that the separation of a genetic and experience factor in regard to social competence is an academic abstraction.

In sum, social competence is not viewed as a specific factor but rather is of a multi-variate nature. The influences on the development of social competence are likewise multi-variate, brought about by the individual's physical maturation and experiential variables. The term "physical maturation" refers to the growth and adequacy of the individual's biologic structure. "Environment" is viewed as the loci of the individual's functioning that provide stimuli toward action through the expectation of performance and includes a reward punishment system for social behavior (21).

Measurement of social competence

The analysis of instruments designed to measure social competence will primarily focus on the Vineland Social Maturity Scale (10). Although the Gesell Developmental Schedules (12) cover the preschool years, technically they do not meet the requirements of a psychological scale. Most of the items are observational

and require the direct examination of the child. The norming sample was small, consisting of 107 subjects for the six age groups, and the subjects were a select group of children. No validity or reliability data have been reported; in fact, there has been no report of the statistical data normally expected for a measurement device of this kind. Any particular child is merely "matched" with the descriptive statements given for the various age levels. Gesell's arguments (12, pp. 320-321) against the necessity for any statistical analysis are not compelling. Anastasi (1) characterizes the Schedules as relatively crude testing instruments which "may be regarded as a refinement and elaboration of the qualitative observations routinely made by pediatricians and other specialists concerned with infant development (p. 283)."

The instrument used most extensively to assess social and personal development is the Vineland Social Maturity Scale. This scale contains six categories of behavior; self-help, locomotion, occupation, communication, self-direction, and socialization, and purports to measure social maturity from birth to any point in the life span. The items are arranged as an age scale but were originally graded by point scale methods. The Vineland Scale differs in one major respect from the conventional psychological scale in that the subject need not be present for examination. Ratings of individual behavior are carried out by trained clinicians through an interview with some person who knows the subject well. The person questioned is asked to rate the subject's habitual performance.

The number of subjects in the norming sample was small, consisting of ten males and ten females at each age level from birth to thirty years.

One of the major criticisms of the Vineland is the liberal interpretation permitted in the scoring. The "No Opportunity" (NO) and the "No Information" (NI) scores, as well as the plus and minus and plus-F scoring categories, add to the difficulties in rating a subject. McDonald (24) states in this respect that several of the scoring categories require a dubious inference on the part of the examiner and are scored in a purely arbitrary manner. Hollinshead (16) found that the scoring manual is not sufficiently precise, and that scoring judgments are not easily made.

With respect to the number of scoring categories, McDonald (24) pointed out that a number of the scoring categories would not have been necessary had the scale been unidimensional. Further, at various age levels, the Vineland is rather gross in the sampling of behaviors and the descriptions are less

behavioral than one would desire. This latter factor requires that a trained clinician administer the scale so that proper interpretations may be made. Doll has argued that the training for the administration of his scale be similar to the training necessary to administer the Stanford-Binet.

Specifically, at the preschool level between the ages of two through six, the Vineland contains only four items in the socialization category. However, to this can be added approximately five items that Doll chooses to include in the categories of "Occupation" and "Locomotion". The behavior sampling and the number of discriminations permitted on the Vineland do not appear to be adequate at the preschool level.

It is the impression of the present authors that the Vineland Social Maturity Scale has been used mainly for clinical and diagnostic purposes and used little in the general fields of education or child psychology. This contention is supported by Anderson (3).

In an effort to increase the relevance of the Vineland Social Maturity Scale, Doll (11) has extended the inventory of behaviors for the first seven years. This scale, the Preschool Attainment Record (PAR), has not been standardized. Doll stated: "The placement of items has been determined in large measure by information already available regarding the developmental maturation of the preschool years (p. 22)." Further, he continued, "We prefer to use this Record for the time being as a developmental inventory which is speculatively developmental but not statistically verified (p. 23)."

The PAR is administered and scored similarly to the Vineland. Therefore, all of the aforementioned criticisms would seem to apply with the additional damaging criticism that the data sources for the specification of age attainments are not revealed. In any event, the PAR is a rather global inventory which minimally overlaps the scale offered by the present investigators.

Caldwell (6) developed The Preschool Inventory which is administered in the form of a test. This Inventory yields four scores, only one of which, Personal-Social Responsiveness, is relevant to the scale reported herein. However, the nature of the Personal-Social Responsiveness items clearly are different from those included in the scale developed by the present investigators.

METHODS

One of the initial decisions made was in regard to the context within which the behaviors included in the scale were to be observed. It was decided to write the items so they were observable within the context of a preschool or nursery school program. Two factors were involved: (1) the tremendous increase in the number of children involved in preschool programs and (2) the greater comparability of factors instigating social interaction within the preschool as compared with the home.

A second major decision was to standardize the test based on teacher ratings. Although the scale is usable by "outside" observers within the preschool setting, it was felt that the teacher could provide the most accurate rating of the children's characteristic performance in a wide range of social interaction situations. Apart from time and cost, the investigators were particularly sensitive to criticisms of observational ratings based on single-act recording (7). It very well may be that for pre-posttest type research "outside" observers may be more desirable than participant teacher ratings. However, criticisms relating to the assessment of change do not seem potent when applied to norming procedures.

Procedures for Scale Development

Prior to the development of the initial form of the scale a number of procedures were followed to obtain an adequate range of behaviors relating to interpersonal situations and self directed activity. Our concern was with the degree of independence a child showed in these regards recognizing that both cognitive and affective factors are involved in the learning of social competence.

First, a considerable number of preschool programs operating under various agencies were visited. The purpose of these visits was to observe children in interaction situations as well as obtaining the aid of preschool personnel in identifying behaviors for inclusion in the scale. Because of the variance among preschool programs in orientation and activities included, these discussions and observations were particularly important in identifying behaviors that would be common to a wide variety of programs.

Second, available standardized and non-standardized instruments were carefully reviewed as was the literature dealing with the social behavior of preschool children.

After extensive observations, discussions, and reviews of available material, the initial form of the scale was written. The

following criteria were used in writing the items for the scale:

1. The child's performance and interaction must be observable within the preschool setting or within activities provided by the preschool.

2. The behaviors included should be applicable to both males and females.

3. The content of each item must be unidimensional. The various levels within an item must reflect different levels of competence for the same behavior.

4. Each item must permit scaling on at least four levels to permit relatively fine discriminations in social competence among individuals.

5. There must be high rank order agreement in the ordering of the levels within each item on the continuum of social competence.

6. The items must contain objective behavioral statements which minimize value judgments and do not reflect particular cultural orientations.

7. The items should be judged by early childhood educators as important to the child's social competency development.

8. The items should show age differentiation.

Based on the above criteria a pool of items were written. These items were evaluated by individuals involved in early childhood education. However, the most extensive and systematic analysis of these items was made by teachers enrolled in graduate programs in early childhood education. They were asked to judge each item along a five point scale from "not" to "extremely" important in regard to preschool children's social competence. They were asked to consider the item across ages rather than for a specific preschool age. Under "Comments" the teachers were to criticize the items in terms of clarity, relevance for children aged 2-6 through 5-6, and in regard to the internal differentiations made within each item. Of particular concern was their agreement with the rank ordering of the levels within each item.

Based on the above procedures, the initial form of the scale was written.

Instructions to Raters

Trained teachers were asked to provide the ratings rather than auxiliary personnel, students, or parent helpers. The raters were to familiarize themselves with the content of the scale, taking careful note of the ordering of levels of competence within each item. The teacher was to concern himself with the variety of contexts within which each behavior was likely to occur. The child's competence is rated for each item in terms of his habitual or typical performance as observed by the teacher. The nature of the items required that the person providing the rating have considerable opportunity to

observe him. The statements are highly behavioral permitting the rater to focus on specific aspects of the child's behavior thus reducing the amount of interpretation and inference required.

The observers were not instructed to interact with or manipulate the environment differently for children being rated than for other children. That is, no stress or test situations were to be devised for the purposes of rating the child's social competence. The teacher was instructed to rate the child on each item at the level at which he most characteristically performs within the existing program. Further, each item was to be judged independently regardless of the judgment made on any previous item.

The face sheet of the scale contains specific instructions on how the ratings were to be recorded (see Appendix A).

Sample Selection and Description

The scale is designed for evaluating the social competence of children aged 2 years and 6 months through 5 years and 6 months who are attending preschool or nursery school programs. Teachers were instructed not to rate children with severe hearing, visual, motor, or emotional problems. Children to be rated were to be selected randomly from the program. The above criteria were used in selecting children for the initial and the norming samples.

Initial Sample. Time and cost factors dictated that the sample for the initial form be limited geographically. Therefore, it was decided to select the initial sample from preschool programs in California because of the extensiveness of such programs covering the age range for which the scale was designed.

Preschool programs from which ratings were obtained were selected from lists provided by various educational and social agencies in California having licensing or administrative jurisdiction for such programs. The children in the selected programs came from homes representing various occupational levels. Further, males and females were approximately equally represented. Programs were not included who enrolled less than fifteen children. Of the schools selected, those having enrollments between 15 and 50 were asked to provide ratings on five children, randomly selected. Programs enrolling over 50 children were asked to randomly select 10% of their children for rating. A total of 1,165 ratings were obtained for the initial form from 106 separate programs. Table 1 presents the number of children rated at each age by sex for the initial form of the scale.

TABLE 1

Number of Preschool Children Rated
on Initial Form by Age and Sex

	CHRONOLOGICAL AGE			
	2	3	4	5
Male	33	154	238	172
Female	54	152	216	146

Norming Sample. The norming sample approximates the proportion of preschool children in the major urban centers for each geographic region of the United States. These proportions were determined from the 1960 U.S. population census (28). Table 2 presents the percentage of preschool aged children for each of the nine geographic areas obtained for the present study as compared with the percentage of preschool aged children reported by the Bureau of the Census.

TABLE 2

Percentage Distribution of
Preschool Children by Geographic Area

Area	Census Percentage ^a	Obtained Percentage ^a
New England	06	04
Middle Atlantic	22	24
East North Central	21	16
West North Central	07	12
South Atlantic	12	06
East South Central	06	06
West South Central	09	07
Mountain	04	11
Pacific	13	14

^a U.S. Bureau of The Census (28)

It should be noted that the proportions listed above do not necessarily represent the number of children enrolled in preschool programs. The investigators were unable to obtain this information.

Lacking information on the distribution of children in preschool programs on such variables as age, sex, and occupational level of parents, it was decided to obtain equal numbers of children for these variables. The norming sample consists of 800 ratings. Table 3 presents the number of children in the norming sample by age, sex, and occupational level.

Personal data item 3 provided information on the occupation of the families major wage earner (see p.24). Families rated "1" and "2" on this item were categorized as "Low Occupational Level (LOL)". This category included unemployed and welfare recipients, unskilled, and semi-skilled laborers. Families rated "3" and "4" were categorized as "High Occupational Level (HOL)". This category included skilled, semi-professional, professional, and executive positions.

TABLE 3

Number of Preschool Children
In Norming Sample by Age, Sex, and
Occupation of Major Wage Earner

CA	HOL ^a		LOL ^a	
	MALE	FEMALE	MALE	FEMALE
2	50	50	50	50
3	50	50	50	50
4	50	50	50	50
5	50	50	50	50

a HOL = High Occupational Level, LOL = Low Occupational Level

RESULTS AND FINDINGS

Initial Form

The initial form contained 34 items which satisfactorily met the criteria discussed under Procedures for Scale Development. The four alternatives within each item are ordered from "lowest" to "highest" level of social competence. The numerical values of the item alternatives at which an individual is rated are summed to provide a total social competency score. The ratings were analyzed

in terms of percentage of preschool children rated at each level for each item, inter-item correlations, item-total score correlations, and the item-chronological age correlations. The items that showed appropriate statistical properties were retained for the final form. Rewriting of these items was done as appeared necessary for the purposes of clarity and increased differentiation.

Final Form

The final form of the scale contained 30 items and is presented in Appendix A.

Prior to establishing the norms for the final form of the scale a 3-way analysis of variance was conducted for the variables of sex, chronological age, and occupational level. As can be seen from Table 4 all of the F ratios for the main effects were significant beyond the .01 level. None of the interactions were significant. Separate norms were established for each of the four age groups by sex and occupational level. The norms for these groups are reported in Appendixes D-1 through D-4.

TABLE 4

Analysis of Variance of Social Competency
Data for Sex, CA, and Occupational Level (OL)

Source	df	MS	F
Sex	1	3038	11.25**
CA	3	17862	66.15**
OL	1	13342	49.41**
Sex x CA	3	78	
Sex x OL	1	52	
CA x OL	3	162	
Sex x CA x OL	3	118	
Within Cells	784	270	
Total	799		

** p < .01

The norms for this scale were established by determining the percentile rank of the social competency raw scores, grouped in three score intervals, for each chronological age, by sex, and by occupational level. The number of subjects for each of these groups may be determined by reference to Table 3. The mean and standard

deviation of the raw scores at each age level for each group were used for the computation of the norms. The mean of each group was set at the 50th percentile and, using the standard deviation of the scores of the group, the standard normal deviate for each raw score interval was established. The midpoint of the interval was used for this purpose. The percentile ranks were then determined from the table of normal curve functions.

The means and standard deviations for the social competency raw scores are reported in Table 5 for each of the 16 groups.

TABLE 5

Social Competency Means and Standard Deviations
for Chronological Age Groups by
Sex and Occupational Level

	CHRONOLOGICAL AGE							
	2		3		4		5	
	LOI ^a	HOI ^a	LOL	HOL	LOL	HOL	LOL	HOL
Male								
Mean	63.58	69.10	75.18	82.04	76.24	89.00	83.90	93.46
S.D.	15.59	18.03	16.52	13.65	17.98	14.13	17.16	13.35
Female								
Mean	66.14	74.58	78.12	84.42	84.04	92.36	88.22	95.80
S.D.	17.74	15.93	20.74	14.94	18.24	13.13	20.31	12.57

a LOL = Low Occupational Level; HOL = High Occupational Level

The correlations between chronological age and social competence are reported in Table 6. The correlations for the "High Occupational Level" are somewhat higher than for the "Low Occupational Level". The correlations between occupational level and social competency score were .26 for males and .22 for females.

TABLE 6

Correlations between Chronological Age
and Social Competence for Males and Females
by Occupational Level

Male		Female	
LOL ^a	HOL ^a	LOL	HOL
.38	.51	.39	.49

^a LOL = Low Occupational Level; HOL = High Occupational Level

The correlations between preschool experience and social competency score by CA, sex, and occupational level are reported in Table 7. The correlations for the various groups showed no consistent pattern.

TABLE 7

Correlations between Preschool Experience
and Social Competency Score

Sex	OL ^a	CHRONOLOGICAL AGE			
		2	3	4	5
..	Low	.16	.36	-.19	.29
M	High	.22	.00	.16	.08
F	Low	.10	.23	.16	.30
F	High	.21	.21	.41	-.04

^a OL = Occupational Level

Reliability

Three types of reliability data are reported: (1) ratings based on independent observation, (2) test-retest ratings, and (3) odd-even correlations.

Reliability data are reported for two studies in which ratings were obtained from independent observers. In the Texas study,

independent ratings were obtained from classroom teachers, the director of the program, and a consultant to the program for 24 subjects. The California ratings were obtained from teachers and assistant teachers on 71 subjects attending six Summer Head Start programs (19).

Test-retest ratings for 15 subjects were obtained from teachers in Minnesota. The retest ratings were obtained about one month after the initial ratings. The teachers were not informed that they would be providing retest ratings and their initial judgments were not available to them. The test-retest correlation was .78.

Table 8 reports the reliability coefficients (Pearson r's) for independent raters and test-retest studies. It should be pointed out that the coefficients for the independent raters are conservative estimates as interjudge differences in the use of the scale and knowledge of the children being rated were not taken into account.

TABLE 8

Reliability Coefficients of Independent Raters^a and for Test-Retest Ratings

Independent Raters			Test-Retest	
Texas (N=24)			Cal (N=71)	Minn (N=15)
TxD	TxC	CxD	TxAT	TxT
.76	.75	.86	.79	.78

^a T=Teacher, D=Director, C=Consultant, AT=Assistant Teacher

Odd-even correlations were computed for each of the groups for whom norms are provided and are presented in Table 9. All of the correlations are .90 or higher indicating a high degree of internal consistency.

TABLE 9

Odd-Even Reliability Coefficients by
Age, Sex, and Occupational Level

CA	LOL ^a		HOL ^a	
	Male	Female	Male	Female
2	.93 ^b	.95	.95	.92
3	.95	.97	.92	.94
4	.98	.94	.93	.90
5	.95	.94	.90	.94

a LOL = Low Occupational Level;

HOL = High Occupational Level

b corrected by Spearman-Brown prophecy formula

Table 10 reports the correlations between the items in the scale and the total social competency score. These correlations are reported for males and females by occupational level. In general, the item-total score correlations are comparable across the four groups. Further, the items reflect reasonably good contributions to the total score with over 80% of the items showing correlations of .50 or above with the total score. It can be seen from the inter-item correlations, reported in Appendix B, that the correlations among the items are relatively low.

The percentage of ratings for each item alternative by sex, occupational level and age are reported in Appendix C.

TABLE 10

Correlations between each Item and Social Competency
Score for Males and Females by Occupational Level

Item	Males		Females	
	LOL ^a N=200	HOL ^a N=200	LOL N=200	HOL N=200
5	.59	.58	.70	.63
6	.64	.50	.68	.54
7	.63	.51	.59	.55
8	.51	.52	.59	.43
9	.53	.51	.67	.55
10	.65	.60	.67	.66
11	.71	.66	.73	.66
12	.65	.66	.77	.64
13	.68	.67	.77	.73
14	.74	.63	.74	.59
15	.72	.75	.80	.74
16	.70	.67	.68	.60
17	.59	.69	.66	.64
18	.59	.62	.70	.64
19	.67	.65	.62	.59
20	.59	.63	.70	.55
21	.61	.49	.63	.54
22	.42	.44	.53	.41
23	.64	.53	.64	.55
24	.45	.59	.63	.59
25	.45	.43	.42	.29
26	.60	.65	.60	.51
27	.49	.54	.57	.55
28	.55	.56	.45	.42
29	.63	.45	.71	.52
30	.41	.55	.49	.30
31	.52	.48	.55	.51
32	.41	.34	.44	.42
33	.47	.49	.66	.49
34	.61	.54	.73	.56

a LOL = Low Occupational Level; HOL = High
Occupational Level

CONCLUSIONS

A social competency scale was developed that reliably discriminates among preschool children aged 2 years 6 months through 5 years 6 months.

The agreement among independent raters was sufficiently high to conclude that preschool teachers can make accurate judgments regarding children's social competence within the preschool context.

In determining a child's level of social competence relative to other children of the same age, the child's sex and the parent's occupational level must be taken into account. The difference between the social competency scores of children whose parents were categorized as "Low Occupational Level" and those categorized as "High Occupational Level" are consistent with differences found for cognitive and language variables in that the LOL children's mean social competency scores were lower at each age level. Although the parent's occupational level is not a direct indication of the environmental stimuli to which a child is exposed, it seems reasonable to assume that parental occupation is related to aspects of the environment that affect the child's independence. Therefore, the social competency scale reported in this study may prove useful in comparative studies designed to assess the effects of environmental interventions.

The social competency scale should be particularly useful in studying the effects of recent educational innovations such as the Head Start Program and nursery programs operating under the Elementary and Secondary Education Act.

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APPENDIX A

PRESCHOOL SOCIAL COMPETENCY SCALE

INSTRUCTIONS

The purpose of this scale is to measure the social competence of preschool children between the ages of 2 years 6 months and 5 years 6 months. This scale is not applicable to children with severe hearing, visual, motor, or emotional problems. The scale is intended to measure the child's actual behavior and not how he might behave if conditions permitted. Each child is to be rated at the level at which he characteristically performs at present.

Each item in the scale contains four levels which are scaled for low competence (level 1) to high competence (level 4). The levels are cumulative in that a child rated at the 4 level, for example, is presumed to be able to perform all preceding levels. Thus, only one level is to be rated for each item.

One I.B.M. card is provided for rating each child. Ratings are to be indicated by marking in the "bubbles" with the enclosed electrographic pencil. Please use only this pencil for making the ratings. Do not make any extraneous marks on the cards as they will cause difficulty in scoring. Space is provided along the right side of the card for the child's name, the name of the school, and the city. FOR THIS INFORMATION USE A PEN. PLEASE DO NOT USE THE ELECTROGRAPHIC PENCIL TO WRITE THE NAME, SCHOOL, AND CITY.

The first four items on the I.B.M. card are for personal data. For example, item 2 on the Personal Data Sheet is for indicating the child's age. If the child being rated is between 3-0 and 3-11 years of age you should fill in bubble 2.

The social competency items begin with number 5 on the I.B.M. card and continue on the reverse side of the card through item 34. Be sure to rate the child on every item in the social competency scale.

FOR EXPERIMENTAL USE ONLY

NOT FOR DISTRIBUTION

The development of this scale is being supported by a grant from the U.S. Office of Education.
(CRP No. 3277).

PERSONAL DATA

1. SEX

- 1) Male
- 2) Female

2. CHRONOLOGICAL AGE

- 1) 2-6 thru 2-11
- 2) 3-0 thru 3-11
- 3) 4-0 thru 4-11
- 4) 5-0 thru 5-6

3. OCCUPATION

- 1) Unemployed and welfare recipients
- 2) Unskilled and semi-skilled (building helpers, janitors, farm laborers, untrained aids, clerks)
- 3) Skilled and semi-professional (craftsmen, technicians, salesmen, accountants, office managers)
- 4) Professional and executive (lawyers, physicians, teachers, engineers, ministers, business executives)

4. LENGTH OF PRESCHOOL EXPERIENCE

- 1) 0-6 months
- 2) 7-12 months
- 3) 1-2 years
- 4) over 2 years

PRESCHOOL SOCIAL COMPETENCY SCALE

RATE EACH CHILD ON ALL ITEMS

5. IDENTIFICATION

- 1) Can state first name only.
- 2) Can state full name.
- 3) Can state full name and age as of last birthday.
- 4) Can state name, age, and address.

6. USING NAMES OF OTHERS

- 1) Uses no proper names in interacting with those around him.
- 2) Uses the names of no more than five children or adults.
- 3) Uses the names of from five to ten children.
- 4) Uses the names of virtually all children and adults.

7. GREETING NEW CHILD

When a new child joins the group--

- 1) he inadvertently physically overpowers child in greeting him (i.e., hugs, bumps, pulls).
- 2) he makes a limited and brief physical contact (i.e., pats, pokes, rubs) with child and some verbal contact.
- 3) he usually makes verbal contact and sometimes touches child.
- 4) he nearly always makes verbal contact with child without physical contact.

8. SAFE USE OF EQUIPMENT

- 1) He proceeds with activity, ignoring hazards involving height, weight, and distance (climbing on unstable equipment, stacking boxes too high, jumping onto off-balanced structures).
- 2) He proceeds with hazardous activity, sometimes seeking help and sometimes getting into difficulty.
- 3) He proceeds with hazardous activity but frequently seeks help when he is in difficulty.
- 4) He corrects hazards or seeks help before proceeding with activity.

9. REPORTING ACCIDENTS

When he has an accident, e.g., spilling, breaking--

- 1) he does not report accidents.
- 2) he sometimes reports accidents.
- 3) he frequently reports accidents.
- 4) he nearly always reports accidents.

10. CONTINUING IN ACTIVITIES

- 1) He wanders from activity to activity with no sustained participation.
- 2) He continues in his own activity but is easily diverted when he notices activities of others.
- 3) He continues in his own activity and leaves it only when he is interrupted by others.
- 4) He continues in his own activity in spite of interruptions.

11. PERFORMING TASKS

- 1) He usually has to be asked two or three times before he will begin a task.
- 2) He usually begins task the first time he is asked, but dawdles and has to be reminded.
- 3) He begins task the first time he is asked but is slow in completing task.
- 4) He begins task first time he is asked and is prompt in completing task.

12. FOLLOWING VERBAL INSTRUCTIONS

He can follow verbal instructions--

- 1) when they are accompanied by demonstration.
- 2) without a demonstration, if one specific instruction is involved.
- 3) without a demonstration, when it involves two specific instructions.
- 4) without a demonstration, when it involves three or more instructions.

13. FOLLOWING INSTRUCTIONS

- 1) He carries out one familiar instruction.
- 2) He carries out one new instruction when it is given first time.
- 3) He follows new instruction given one at a time, as well as familiar ones.
- 4) He follows several new instructions given at a time, as well as familiar ones.

14. REMEMBERING INSTRUCTIONS

- 1) He nearly always needs instructions repeated or a second demonstration before he can perform the activity on his own.
- 2) He frequently requires repetition, a reminder, or affirmation that he is proceeding correctly.
- 3) He occasionally needs repetition of instruction for part of the activity before completing the activity.
- 4) He performs the activity without requiring repetition of instructions.

15. MAKING EXPLANATION TO OTHER CHILDREN

When attempting to explain how to do something to another child (put things together, play a game, etc.)--

- 1) he is unable to do so.
- 2) he gives an incomplete explanation.
- 3) he gives a complete but general explanation.
- 4) he gives a complete explanation with specific details.

16. COMMUNICATING WANTS

- 1) He seldom verbalizes his wants; acts out by pointing, pulling, crying, etc.
- 2) He sometimes verbalizes but usually combines actions with words.
- 3) He usually verbalizes but sometimes acts out his wants.
- 4) He nearly always verbalizes his wants.

17. BORROWING

- 1) He takes objects when in use by others without asking permission.
- 2) He sometimes asks permission to use other's objects.
- 3) He frequently asks permission to use other's objects.
- 4) He nearly always asks permission to use other's objects.

18. RETURNING PROPERTY

When he has borrowed something--

- 1) he seldom attempts to return the property to its owner.
- 2) he occasionally attempts to return the property to its owner.
- 3) he frequently attempts to return the property to its owner.
- 4) he nearly always returns the property to its owner.

19. SHARING

- 1) He does not share equipment or toys.
- 2) He shares but only after adult intervention.
- 3) He occasionally shares willingly with other children.
- 4) He frequently shares willingly with other children.

20. HELPING OTHERS

When another child is having difficulty (such as using equipment, dressing)--

- 1) he never helps the other child.
- 2) he helps another child only when they are playing together.
- 3) he sometimes stops his own play to help another child.
- 4) he frequently stops his own play to help another child.

21. PLAYING WITH OTHERS

- 1) He usually plays by self.
- 2) He plays with others but limits play to one or two children.
- 3) He occasionally plays with a larger group (three or more children).
- 4) He usually plays with a larger group (three or more children).

22. INITIATING INVOLVEMENT

When other children are involved in an activity which permits the inclusion of additional children--

- 1) he seldom initiates getting involved in the activity.
- 2) he sometimes initiates getting involved in the activity.
- 3) he frequently initiates getting involved in the activity.
- 4) he nearly always initiates getting involved in the activity.

23. INITIATING GROUP ACTIVITIES

- 1) He nearly always initiates activities which are solely for his own play.
- 2) He initiates his own activities and allows one child to join him.
- 3) He sometimes initiates activities which include two or more children.
- 4) He frequently initiates activities which are of a group nature.

24. GIVING DIRECTION TO PLAY

When playing with others--

- 1) he typically follows the lead of others.
- 2) he sometimes makes suggestions for the direction of the play.
- 3) he frequently makes suggestions for the direction of the play.
- 4) he nearly always makes suggestions for the direction of the play.

25. TAKING TURNS

- 1) He frequently interrupts or pushes others to get ahead of them in an activity taking turns.
- 2) He attempts to take turn ahead of time but does not push or quarrel in order to do so.
- 3) He waits for turn, but teases or pushes those ahead of him.
- 4) He waits for turn or waits to be called on.

26. REACTION TO FRUSTRATION

When he does not get what he wants or things are not going well--

- 1) he has a tantrum (screams, kicks, throws, etc.).
- 2) he finds a substitute activity without seeking help in solving the problem.
- 3) he seeks help from others in solving problem without making an attempt to solve it himself.
- 4) he seeks help from others in solving the problem after making an effort to solve it himself.

27. DEPENDENCE UPON ADULTS

He will continue in an activity on his own without having an adult participate with him or encourage him--

- 1) hardly ever.
- 2) sometimes.
- 3) frequently.
- 4) nearly always.

28. ACCEPTING LIMITS

When an adult sets limits on the child's activity (play space, use of material, type of activity) he accepts the limits--

- 1) hardly ever.
- 2) sometimes.
- 3) frequently.
- 4) nearly always.

29. EFFECTING TRANSITIONS

In changing from one activity to another--

- 1) he requires personal contact by adult (i.e., holding hands, leading).
- 2) he will not move toward new activity until the physical arrangements have been completed.
- 3) he moves toward new activity when the teacher announces the activity.
- 4) he moves toward new activity without physical or verbal cues.

30. CHANGES IN ROUTINE

The child accepts changes in routine (daily schedule, room arrangements, adults) without any resistance or becoming upset.

- 1) Hardly ever
- 2) Sometimes
- 3) Frequently
- 4) Nearly always

31. REASSURANCE IN PUBLIC PLACES

When taken to public places he must be given physical or verbal reassurance.

- 1) Nearly always
- 2) Frequently
- 3) Sometimes
- 4) Hardly ever

32. RESPONSE TO UNFAMILIAR ADULTS

- 1) He avoids or withdraws from any contact with unfamiliar adults.
- 2) He, when initially approached by unfamiliar adults, avoids contact, but if approached again, is responsive.
- 3) He responds to overtures by unfamiliar adults but does not initiate contact.
- 4) He readily moves toward unfamiliar adults.

33. INVESTIGATES UNFAMILIAR SITUATIONS

- 1) He restricts himself to activities in which he has previously engaged.
- 2) He joins in an activity which is new for him only if other children are engaged in it.
- 3) He joins with other children in an activity which is new to everyone.
- 4) He engages in an activity which is new for him even though other children are not involved.

34. SEEKING HELP

When he is involved in an activity in which he needs help--

- 1) he leaves the activity without seeking help.
- 2) he continues in the activity but only if help is offered.
- 3) he persists in the activity and finally seeks help.
- 4) he seeks help from others after making a brief attempt.

APPENDIX B-2
 SOCIAL COMPETENCY SCALE INTER ITEM CORRELATIONS
 FOR LOL FEMALES (UPPER PORTION) AND HOL FEMALES (LOWER PORTION)
 AGES COMBINED
 N=200

5	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
5	-.51	64	39	42	46	39	45	54	60	47	63	50	45	47	36	57	41	33	44	51	23	33	32	20	47	25	41	31	42	46
6	-.38	-.38	42	37	51	31	40	51	54	43	59	53	34	43	37	51	48	42	49	43	08	36	25	13	41	19	34	33	49	48
7	-.41	42	-.39	44	43	36	41	45	49	44	48	40	38	44	40	34	18	24	34	19	20	34	24	32	36	29	27	22	30	42
8	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
9	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
10	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
11	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
12	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
13	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
14	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
15	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
16	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
17	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
18	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
19	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
20	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
21	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
22	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
23	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
24	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
25	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
26	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
27	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
28	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
29	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
30	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
31	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
32	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
33	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37
34	-.41	41	-.41	43	43	51	48	50	50	50	39	32	49	45	35	43	37	36	27	27	37	42	24	40	28	30	20	06	23	37



APPENDIX C

PERCENTAGE OF RATINGS FOR EACH ITEM ALTERNATIVE
BY SEX, OCCUPATIONAL LEVEL, AND AGE

Item	Sex		Low Occ'l Level				High Occ'l Level			
			2	3	4	5	2	3	4	5
5	M	1	76	20	22	8	46	12	2	0
		2	14	24	20	16	30	14	6	6
		3	8	46	34	40	18	54	52	34
		4	2	10	24	36	6	18	40	60
5	F	1	58	26	20	14	42	8	8	0
		2	20	22	14	6	20	12	4	4
		3	18	38	48	34	32	50	50	26
		4	4	14	18	46	6	30	38	70
6	M	1	44	6	10	2	20	6	0	2
		2	26	16	20	12	24	22	12	6
		3	10	16	14	14	18	18	16	20
		4	20	62	56	72	38	54	72	72
6	F	1	38	14	10	8	20	4	2	2
		2	18	12	18	14	24	6	8	2
		3	12	22	26	10	20	14	20	14
		4	32	52	46	68	36	76	70	82
7	M	1	30	6	4	6	20	4	12	2
		2	40	30	50	34	30	24	8	22
		3	16	38	24	32	34	36	38	32
		4	14	24	22	28	16	36	42	44
7	F	1	18	4	4	8	10	6	0	6
		2	38	36	32	20	36	14	18	8
		3	30	24	36	22	40	52	40	40
		4	14	36	28	50	14	28	42	46

Item	Sex		Low Occ'l Level				High Occ'l Level			
			2	3	4	5	2	3	4	5
8	M	1	52	32	22	28	26	14	14	16
		2	18	34	42	28	48	36	20	12
		3	14	18	20	20	14	30	30	36
		4	16	16	16	24	12	18	36	36
8	F	1	22	16	12	10	8	10	4	14
		2	48	26	22	18	34	24	14	6
		3	22	28	20	14	28	46	36	32
		4	8	30	46	58	30	20	46	48
9	M	1	42	22	18	20	34	16	12	10
		2	28	32	32	34	22	22	8	22
		3	12	18	26	20	8	20	20	20
		4	18	28	24	26	36	42	60	40
9	F	1	44	22	12	12	22	18	8	10
		2	30	24	26	28	22	20	16	14
		3	4	14	16	14	12	26	16	14
		4	22	38	46	46	36	36	60	62
10	M	1	28	18	12	16	20	4	14	2
		2	34	34	46	22	52	36	28	28
		3	20	30	16	46	18	40	26	42
		4	18	18	26	16	10	20	32	28
10	F	1	34	26	14	14	10	12	6	4
		2	42	34	26	22	38	30	16	26
		3	12	18	26	20	34	24	22	28
		4	12	20	34	44	18	34	56	42
11	M	1	46	34	34	24	42	18	20	12
		2	28	30	18	20	26	22	28	18
		3	10	16	30	26	14	34	24	16
		4	16	18	18	30	18	26	28	54
11	F	1	36	28	20	14	30	28	12	8
		2	24	26	24	14	30	26	16	10
		3	18	24	20	22	16	24	24	20
		4	22	22	36	50	24	22	48	62

<u>Item</u>	<u>Sex</u>		Low Occ'l Level				High Occ'l Level			
			<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
12	M	1	48	38	40	32	42	24	18	6
		2	42	42	38	16	36	30	24	32
		3	8	12	10	40	12	36	36	38
		4	2	8	12	12	10	10	22	24
12	F	1	44	40	20	22	40	42	10	2
		2	38	24	30	22	42	26	28	22
		3	12	14	26	28	10	20	38	42
		4	6	20	24	28	8	12	24	32
13	M	1	54	32	32	14	46	22	10	4
		2	18	18	18	16	20	22	14	12
		3	28	38	40	52	26	38	58	46
		4	0	10	10	18	8	18	18	38
13	F	1	50	34	18	22	30	24	6	8
		2	20	22	22	8	24	20	12	0
		3	26	28	34	36	40	46	62	54
		4	4	14	26	34	6	10	20	32
14	M	1	34	18	24	10	24	18	10	4
		2	42	38	30	24	34	22	14	16
		3	16	24	26	46	32	42	48	48
		4	8	20	20	20	10	18	28	32
14	F	1	42	26	12	14	18	22	4	6
		2	24	28	22	26	34	34	14	8
		3	18	30	38	38	34	22	44	46
		4	16	16	28	22	14	22	38	40
15	M	1	70	24	22	8	54	18	2	2
		2	14	28	34	30	16	22	28	14
		3	16	42	32	40	26	38	32	54
		4	0	6	12	22	4	20	38	30
15	F	1	58	22	14	22	36	16	4	4
		2	22	30	30	22	38	20	12	10
		3	18	28	34	20	18	44	54	42
		4	2	18	22	36	8	20	28	44

Item	Sex		Low Occ'l Level				High Occ'l Level			
			2	3	4	5	2	3	4	5
16	M	1	30	20	8	6	14	2	2	2
		2	32	16	36	24	36	14	10	2
		3	14	14	16	22	12	26	22	20
		4	22	50	40	48	38	58	66	76
16	F	1	18	12	6	14	12	4	4	4
		2	36	24	22	16	36	14	10	8
		3	14	22	16	6	10	24	16	2
		4	32	40	56	64	42	58	70	86
17	M	1	64	28	30	22	54	34	20	8
		2	18	34	28	32	22	22	28	18
		3	12	18	26	26	10	22	20	30
		4	6	20	16	20	14	22	32	44
17	F	1	52	20	22	16	36	26	10	6
		2	22	40	30	20	36	22	26	20
		3	16	18	14	26	24	26	30	14
		4	10	20	34	38	4	26	34	60
18	M	1	54	38	30	18	58	20	26	10
		2	28	28	42	42	24	44	24	22
		3	14	12	18	26	6	22	22	14
		4	4	22	10	14	12	14	28	54
18	F	1	52	26	18	18	42	20	8	8
		2	22	34	26	16	32	36	26	14
		3	12	18	26	34	12	14	28	10
		4	14	20	30	32	14	30	36	64
19	M	1	26	6	4	6	16	6	2	0
		2	30	28	36	20	34	20	22	22
		3	34	38	36	46	22	50	38	32
		4	10	28	24	28	28	24	38	46
19	F	1	4	4	4	2	8	6	2	0
		2	46	30	16	20	28	14	14	12
		3	28	36	40	36	38	52	42	30
		4	22	28	40	42	26	28	42	58

<u>Item</u>	<u>Sex</u>		<u>Low Occ'l Level</u>				<u>High Occ'l Level</u>			
			<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
20	M	1	32	14	14	2	46	16	8	6
		2	36	44	46	42	22	40	36	40
		3	16	34	30	38	20	34	44	32
		4	16	8	10	18	12	10	10	22
20	F	1	32	12	10	8	18	8	4	2
		2	42	32	30	30	38	50	26	34
		3	12	34	38	34	30	32	38	34
		4	14	20	22	28	14	10	32	30
21	M	1	22	14	6	2	26	12	2	2
		2	50	24	40	28	30	42	28	32
		3	12	46	32	38	30	30	48	24
		4	16	16	22	32	14	16	22	42
21	F	1	22	10	14	8	10	4	2	0
		2	46	32	36	34	52	42	30	32
		3	18	32	22	18	28	32	38	40
		4	14	26	28	40	10	22	30	28
22	M	1	30	16	22	10	30	20	12	18
		2	30	46	38	36	28	26	26	24
		3	18	30	28	30	16	18	42	26
		4	22	8	12	24	26	36	20	32
22	F	1	36	14	28	20	12	18	12	18
		2	22	28	24	22	36	26	26	20
		3	16	42	16	34	40	22	32	44
		4	26	16	32	24	12	34	30	13
23	M	1	40	20	26	14	44	12	14	6
		2	40	32	24	10	20	22	16	24
		3	18	38	42	54	30	46	52	40
		4	2	10	8	22	6	20	18	30
23	F	1	38	12	18	20	30	14	10	14
		2	36	24	22	10	36	26	22	24
		3	20	36	32	48	26	50	44	40
		4	6	28	28	22	8	10	24	22

Item	Sex		Low Occ'l Level				High Occ'l Level			
			2	3	4	5	2	3	4	5
24	M	1	50	40	30	14	58	26	14	22
		2	38	32	42	36	20	38	28	16
		3	2	20	6	36	14	26	28	30
		4	10	8	22	14	8	10	30	32
24	F	1	58	36	26	32	46	22	14	14
		2	24	36	28	28	36	32	24	26
		3	14	14	28	28	12	24	32	30
		4	4	12	18	12	6	22	30	30
25	M	1	52	32	32	32	44	36	32	26
		2	16	20	32	24	20	22	14	6
		3	12	16	6	16	6	16	22	20
		4	20	32	30	28	30	26	32	48
25	F	1	46	32	22	22	32	22	20	16
		2	16	34	20	24	24	30	32	20
		3	8	6	16	8	8	12	10	10
		4	30	28	42	46	36	36	38	54
26	M	1	34	24	22	12	32	18	20	10
		2	30	26	32	36	26	24	14	20
		3	24	24	22	18	30	22	18	16
		4	12	26	24	34	12	36	48	54
26	F	1	38	22	14	4	20	14	16	14
		2	34	28	28	36	26	16	12	10
		3	14	28	18	20	38	30	34	18
		4	14	22	40	40	16	40	38	58
27	M	1	12	12	8	6	20	2	4	10
		2	28	32	26	22	26	22	14	6
		3	22	30	36	34	26	32	34	42
		4	28	26	30	38	28	44	48	42
27	F	1	24	12	4	6	6	2	6	2
		2	26	38	24	28	24	32	18	10
		3	20	22	34	28	40	30	30	34
		4	30	28	38	38	30	36	48	54

Item	Sex		Low Occ'l Level				High Occ'l Level			
			2	3	4	5	2	3	4	5
28	M	1	16	16	18	6	18	2	8	6
		2	36	34	32	32	24	30	24	22
		3	24	14	26	24	22	34	26	14
		4	24	36	24	38	36	34	42	58
28	F	1	10	10	4	10	4	12	4	4
		2	36	38	30	20	24	10	22	12
		3	14	20	26	14	34	22	22	24
		4	40	32	40	54	38	56	52	58
29	M	1	30	34	28	16	30	4	2	6
		2	14	10	8	16	8	26	22	10
		3	40	46	54	44	40	48	56	52
		4	16	10	10	24	22	22	20	30
29	F	1	32	18	22	10	20	10	4	2
		2	10	12	8	14	8	10	12	14
		3	50	46	48	44	52	60	54	66
		4	8	22	22	32	20	20	30	18
30	M	1	12	16	8	2	16	2	8	4
		2	32	16	20	10	20	14	8	6
		3	10	18	34	28	18	30	20	16
		4	46	50	38	60	46	54	64	74
30	F	1	14	4	6	2	6	4	4	2
		2	22	22	18	16	12	8	14	8
		3	14	18	12	16	30	18	14	14
		4	50	54	64	66	52	70	68	76
31	M	1	26	22	10	8	16	16	2	6
		2	18	12	14	12	22	14	10	8
		3	12	26	30	26	20	34	30	16
		4	40	38	46	54	42	36	58	70
31	F	1	26	12	20	8	16	6	8	0
		2	16	14	14	6	26	20	14	6
		3	30	34	32	30	24	42	32	36
		4	28	40	34	56	34	32	46	56

<u>Item</u>	<u>Sex</u>		<u>Low Occ'l Level</u>				<u>High Occ'l Level</u>			
			<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
32	M	1	26	18	16	8	16	14	8	6
		2	20	14	12	20	18	22	20	22
		3	26	36	46	52	42	40	36	50
		4	26	30	26	20	24	24	36	22
32	F	1	24	10	26	14	22	14	4	12
		2	24	18	14	14	22	20	22	14
		3	34	36	30	42	34	36	46	42
		4	18	34	30	30	22	30	26	30
33	M	1	10	14	14	10	10	12	2	6
		2	34	28	22	24	32	22	20	10
		3	28	34	30	48	14	38	34	54
		4	26	24	34	18	44	28	44	30
33	F	1	16	16	22	12	14	8	6	6
		2	44	16	20	16	28	14	16	14
		3	20	38	22	38	34	30	38	44
		4	20	28	36	34	24	48	38	34
34	M	1	32	26	18	10	34	10	10	6
		2	22	24	30	20	34	18	14	10
		3	20	18	18	36	16	42	54	48
		4	24	22	34	34	16	28	22	34
34	F	1	40	24	22	14	18	16	4	8
		2	24	12	16	18	28	18	16	14
		3	20	30	26	32	28	30	52	30
		4	16	32	36	36	26	36	28	46

APPENDIX D-1

PERCENTILE NORMS FOR CA 2-6 THROUGH 2-11

Raw Score	LOL ^a		HOL ^a		Total	Total
	Male	Female	Male	Female	Male	Female
120						
117-119						
114-116						
111-113				99		
108-110			99	98		99
105-107		99	98	98	99	98
102-104		98!	97	96	98	97
99-101		97	96	94	98	96
96-98		96	94	92	96	94
93-95		94	92	89	95	91
90-92		92	89	85	93	88
87-89	99	89	85	80	90	85
84-86	91	86	81	74	86	80
81-83	88	82	76	68	82	75
78-80	84	77	71	66	77	69
75-77	78	71	65	54	72	63
72-74	73	65	59	46	65	56
69-71	66	59	52	39	59	49
66-68	59	52	45	32	52	42
63-65	51	45	39	25	44	36
60-62	43	39	33	20	38	29
57-59	36	32	27	15	31	24
54-56	29	27	22	11	25	19
51-53	23	21	17	8	20	14
48-50	17	17	13	5	15	11
45-47	13	13	10	4	12	8
42-44	9	10	7	2	8	6
39-41	7	7	5	2	6	4
36-38	4	5	4	1	4	3
33-35	3	4	3		3	2
30-32	2	2	2		2	1

a LOL=Low Occupational Level; HOL=High Occupational Level

APPENDIX D-2

PERCENTILE NORMS FOR CA 3-0 THROUGH 3-11

Raw Score	LOL ^a		HOL ^a		Total Male	Total Female
	Male	Female	Male	Female		
120		99				99
117-119		97		99	99	98
114-116		96		98	99	97
111-113	99	95	99	97	98	95
108-110	98	93	98	95	97	94
105-107	97	91	96	93	96	91
102-104	95	88	94	89	94	88
99-101	93	85	90	85	92	85
96-98	91	82	86	80	83	81
93-95	87	78	81	74	84	76
90-92	83	73	75	67	79	70
87-89	78	68	67	59	73	64
84-86	72	63	59	52	66	58
81-83	66	58	50	44	59	52
78-80	59	52	41	36	51	48
75-77	52	46	33	29	43	39
72-74	45	40	25	22	36	33
69-71	38	35	19	17	29	27
66-68	31	29	14	12	23	23
63-65	25	25	9	9	17	17
60-62	19	20	6	6	13	13
57-59	15	17	4	4	9	10
54-56	11	13	2	2	6	7
51-53	8	10	1	1	4	5
48-50	6	8			3	4
45-47	4	6			2	3
42-44	3	5			1	2
39-41	2	3				1
36-38	1	2				
33-35		2				
30-32		1				

a LOL=Low Occupational Level, HOL=High Occupational Level

APPENDIX D-3

PERCENTILE NORMS FOR CA 4-0 THROUGH 4-11

Raw Score	LOL ^a		HOL ^a		Total Male	Total Female
	Male	Female	Male	Female		
120		99	99	99	99	99
117-119	99	97	98	97	98	97
114-116	98	96	97	96	97	95
111-113	98	94	95	93	96	93
108-110	97	91	92	90	94	90
105-107	95	88	88	85	91	86
102-104	93	85	84	79	88	82
99-101	91	81	78	72	84	76
96-98	87	76	71	64	80	71
93-95	84	71	64	55	75	64
90-92	79	65	56	46	68	58
87-89	74	59	47	37	62	50
84-86	69	52	39	29	56	42
81-83	63	46	31	22	50	35
78-80	56	39	24	16	42	29
75-77	50	33	18	11	35	23
72-74	43	27	13	7	29	18
69-71	36	22	9	4	23	13
66-68	31	18	6	3	18	10
63-65	25	14	4	2	14	7
60-62	20	10	2	1	11	5
57-59	16	8	1		8	3
54-56	12	6			6	2
51-53	9	4			4	1
48-50	7	3			3	
45-47	5	2			2	
42-44	3	1			1	
39-41	2					
36-38	1					
33-35						
30-32						

a LOL=Low Occupational Level, HOL=High Occupational Level

APPENDIX D-4

PERCENTILE NORMS FOR CA 5-0 THROUGH 5-6

Raw Score	LOL ^a		HOL ^a		Total Male	Total Female
	Male	Female	Male	Female		
120	99	99	99	99	99	99
117-119	98	93	97	96	97	93
114-116	96	91	95	94	95	91
111-113	95	88	92	90	93	88
108-110	93	85	88	85	90	84
105-107	90	81	83	79	86	79
102-104	87	77	76	72	81	74
99-101	83	72	69	63	76	68
96-98	78	67	61	54	70	61
93-95	72	61	52	44	63	55
90-92	66	56	43	35	56	48
87-89	59	50	34	27	48	41
84-86	52	44	26	19	41	34
81-83	46	38	19	14	34	28
78-80	39	33	14	9	27	23
75-77	32	27	10	7	21	18
72-74	26	23	6	4	16	14
69-71	21	18	4	2	12	10
66-68	16	15	2	1	9	7
63-65	12	12	1		6	5
60-62	9	9			4	4
57-59	7	7			3	2
54-56	5	5			2	2
51-53	3	4			1	1
48-50	2	3				
45-47	1	2				
42-44		1				
39-41						
36-38						
33-35						
30-32						

a LOL=Low Occupational Level, HOL=High Occupational Level

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Final Report

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500

501

RETRIEVAL TERMS
Preschool social competency scale, Preschool scale, Social Development Scale, Social Behavior Scale, Social Maturity Scale.

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IDENTIFIERS

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ABSTRACT
A social competency scale designed for rating preschool children within the context of the nursery school was standardized. The statistical data are based on ratings for children aged 2 years 6 months through 5 years 6 months. The final form of the scale was normed on a representative sample of preschool children attending nursery schools from all areas of the United States. Ratings were obtained for 800 preschool children; 50 for each age, sex, and occupational level. The statistical data indicated that the scale reliably discriminated among the various age groups included in the study. A three-way analysis of variance of the social competency scale scores was conducted for the variables of sex, chronological age, and occupational level. All of the F ratios for the main effects were significant beyond the .01 level. None of the interactions were significant. Separate norms are presented for each of four age groups by sex and occupational level.

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