

DIFFERENCES IN SOCIAL BEHAVIOR BETWEEN
ELEMENTARY SCHOOL CHILDREN WHO HAVE ATTENDED NURSERY
SCHOOL AND THOSE WHO HAVE NOT ATTENDED NURSERY SCHOOL

THESIS

Presented to the Graduate Council of the
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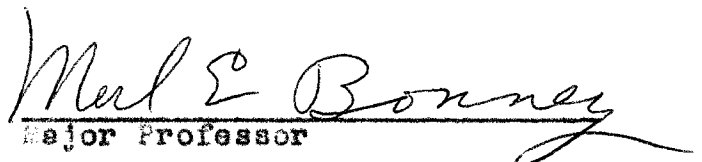
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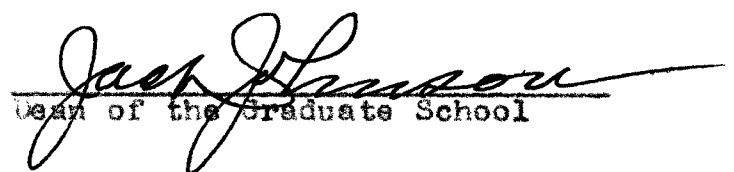

Dean of the Graduate School

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CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is to attempt to discover any observable differences in social behavior between elementary school pupils who have attended nursery school and those who have had no nursery school experience.

Need for the Study

In spite of the fact that many thousands of children attend some kind of nursery school every year and many thousands of pages are written regarding the value of such a practice, there has been little research regarding the lasting value of nursery school attendance. Literature in the field has been filled with glowing statements of the wonders accomplished for children after a short period of contact with the "well-managed" nursery school. Teachers and parents can report case after case in which the nursery school has been able to fill the needs of those tender years so well that problems have vanished and feet have been set firmly in the path toward good adjustment. However, disappointingly few well-controlled research studies have appeared in scientific literature to either verify or reject these reports.

The background of theory upon which this study is based is that the child can be and should be socialized. His entire life will be spent in contact with and in partial dependency upon other members of society. Behavior patterns, ways of regarding himself and others, and ways of responding to others are developing rapidly in the so-called "preschool" years. Furthermore, a great part of his social contacts will be with his contemporaries. It is logical to presume, then, that contact at an early age with one's contemporaries under the favorable conditions of a well-run nursery school should stimulate social growth in a desirable manner. Undoubtedly the foregoing statement would have to be qualified for particular individuals; nevertheless, the nursery school would seem to be one way of aiding social adjustment at an age when social behavior is being learned.

Description of the Sample

The children used in this study include those from two classes at the Texas State College for Women Elementary School and from four classes at North Texas State College Elementary School. Both of these colleges are located at Denton, Texas. Distribution of cases at Texas State College for Women was: eight pairs from kindergarten and eight pairs from first grade. The distribution of cases from North Texas State College was: five pairs in kindergarten, seven pairs in first grade, six pairs in second grade, and five pairs in third grade. The study included a total of thirty-nine children who had

attended nursery school and thirty-nine children who had not attended nursery school.

Procedure

Since the two colleges in Denton both conduct nursery schools, the elementary schools at the colleges were thought to be the most likely places for locating nursery school "graduates." Logically, the most observable differences between the nursery school and non-nursery school groups were to be expected in the early grades. Therefore, it was decided to study the kindergarten, first, second and third grades at North Texas State College and, due to limited time, only the kindergarten and first grade at Texas State College for Women.

After obtaining permission from the principal of North Texas State College Elementary School to present the problem to the teachers, the investigator sought their individual cooperation. It was explained that social behavior was the topic of the study, but at no time was nursery school attendance mentioned. In this way one possible element of bias was eliminated. From the teachers the class roll was secured together with the following information: the number of siblings in each child's family, his father's occupation, and an estimate of his academic ability. In many cases there were no test scores available, and the teacher made an estimate as to whether the child's academic ability was in the upper fourth, lower fourth or the middle half of the class distribution.

Academic ability has been found to have a rather low correlation (usually about .30) with social behavior, and it was thought unnecessary, under the circumstances, to try to obtain more accurate figures.

The class rolls were then taken to the college nursery school and compared with their records to determine what children had attended the nursery school and the length of their attendance. It was found that twenty-three children in the four grades had attended at least one semester. Mean attendance was 4.2 semesters, with a range of from one to seven semesters.

In general, the above procedure was followed in securing information from the Texas State College for Women Elementary School. These teachers did not rate the pupils, so it was not necessary to conceal the nursery school aspect from them. Furthermore, they preferred not to disclose academic abilities, so these children had to be matched without regard to this factor. According to the records of the Texas State College for Women Nursery School, twenty-three children from the two grades had attended at least one semester. It was impossible to properly match this number, so only sixteen, eight from each room, were used in the study. Mean attendance of the sixteen was 3.2 semesters, with a range of from one to eight semesters.

Each nursery school child was matched as nearly as possible with a child in his grade for sex, father's occupation,

number of children in the family and, in one school, estimated academic ability. In two cases it was necessary to pair a girl with a boy in order to equate other factors, such as family size and socioeconomic level. Sex was found not to be an indication of popularity as determined by sociometric choices. The children with the highest weighted scores in two classes were girls and in four classes were boys. In eleven cases of the thirty-nine, family size was not identical. However in nearly all cases there was a difference of only one child.

Social behavior was studied by attempting to determine the reaction of teachers and classmates to the children in the study. The teachers' judgment was acquired by means of the Winnetka Scale for Rating School Behavior and Attitudes, and classmates' preferences were obtained through use of the partial-rank-order sociometric choices.

The Winnetka Scale presents thirteen commonly encountered classroom situations with from five to ten common responses in order of desirability. For example, under the situation, "When in a social situation which allows for initiative" are listed the following responses:

- Can organize and lead large group (10)
- Can organize and lead small group (9)
- Can lead another child (5)
- Takes good care of self but does not attempt to lead others (6)
- Does not like to have others take the lead and clings to own ideas (2)
- Bothers other children or bosses them (2)
- Allows other child to boss him in a way that is harmful to himself or others (1)

Shows cruel tendencies, such as bullying (bossing weaker child) ridiculing etc. (1)
 Plays alone (1)
 Shows no social initiative (0)

Numbers in parentheses beside each response represent the percentage of the children in the original study who were rated at or below the given level of behavior. The decile ratings at each level were about the same from grade to grade in the Winnetka study. The numbers are used also for the purpose of calculating a score. Groups of situations are combined to indicate the child's level in the areas of cooperation, social consciousness, emotional adjustment, leadership and responsibility. In addition to comparing scores in the five areas, this study makes use of a total score obtained by adding the thirteen subscores yielded by the scale.

Sociometric choices were obtained in several different ways depending upon the wish of the teacher and the age of the pupils. In every case the child was asked to make a first, second, and third choice of a playmate from his own class.

In the North Texas State College Elementary School the following procedures were used:

Kindergarten. A student teacher brought one child at a time to a secluded corner of the room, introduced him to the investigator, then asked him the question: "If you could choose your partner for refreshment time, which boy or girl in the kindergarten would you choose?" Upon securing an answer, she would ask, "Who else would you choose?" then "Who

else?" The investigator wrote the names, checking with the student teacher to be sure they were correct.

First Grade. The teacher asked each child individually, "If you could play with only one child in the room, what child would you want to play with? Who would you choose next? And who next?" She recorded the responses herself.

Second Grade. The teacher collected the data from her pupils. She asked, "If you were to choose one child from this class to play with, who would you choose? Who would you choose next? Who else would you choose?"

Third Grade. The investigator asked the entire class at once: "Remember how you chose a camp buddy when you went to school last summer? Pretend you are choosing one now and write down the name of the person in this class whom you would choose. Now write your next choice. Now write your next choice."

In all other classes there were a number of boy-girl choices, but in this one there were only two. It is thought that the nature of the situation presented may have deterred some from choosing the opposite sex. It may have been necessary to have partners of the same sex. However, there are usually fewer inter-sex choices among older children.

At Texas State College for Women Elementary School the following procedures were used:

Kindergarten. A student teacher brought one child at a time to a secluded corner of the room, introduced him to

the investigator, then asked: "If you were playing outside, what boy or girl in this class would you choose to play with? Who else? Who else?" The investigator wrote the names, checking with the student teacher to be sure they were correct.

First Grade. The investigator asked each child individually: "If you were playing outside, what boy or girl in this class would you choose to play with? Who else? Who else?" She did her own recording.

Limitations of the Study

The study is limited by the small number of cases--thirty-nine pairs in all. Since the college nursery schools are distinctly above average in regard to teachers, teaching methods, and curriculum, their effect upon the children who attended could not be generalized to any child who attended any kind of nursery school.

It is possible that the two teachers who took the sociometric choices of their own pupils could have been influenced by the results in filling out the behavior rating scale. However, since the response levels are rather specific, the likelihood of their being influenced is lessened. The use of more measures would probably have given a more complete picture of each child's social behavior. Time sampling, for instance, may have yielded some additional information.

CHAPTER II

RELATED STUDIES

The effect of nursery school training on the child has been more rigorously investigated in the area of intelligence than in any other area. Findings are set forth regarding studies of large and small groups, matched groups, two groups of nursery children--one with a short attendance record and one with more experience. There are also follow-up studies of children at the grade school, high school and even college levels.

Seventeen children attending the Western Reserve University Nursery School were matched by Anderson with seventeen not attending in regard to I.Q., socioeconomic status, sex, and parents' education.¹ After administering the 1916 form of the Stanford-Binet Test to all children at the beginning and end of a six-month period, he found the intelligence quotient of the nursery group had increased 2.40 points, whereas the control group had lost 1.23. The difference was not significant. To determine the cumulative effect of nursery school experience, Anderson divided groups according

¹L. Dewey Anderson, "A Longitudinal Study of the Effects of Nursery-School Training on Successive Intelligence-Test Ratings," Intelligence: Its Nature and Nurture, "Thirty-ninth Yearbook of the National Society for the Study of Education, Part II, pp. 3-10. (Hereafter, articles from this source will be referred to by author, title, and "Thirty-ninth Yearbook.")

to amount of nursery school attendance and paired each of the sixty-four children with one from a control group. The group with most experience increased 3.7 points in two years; the control group gained 2.42. He concluded that there is no definite tendency for the average I.Q. to increase proportionately with the amount of nursery school experience.

Goodenough and Maurer tested nursery school and non-nursery school groups with the Minnesota Preschool Scale initially, then after one, two, and three years.² There were originally 147 children in the nursery group and 260 in the non-nursery group, but some were necessarily dropped each succeeding year. At the end of one year both groups had made a gain of 4.6 points which was attributed to practice effect. After two years the average gain for the nursery group was 6.2 points over the first test compared to an average gain of 4.6 for the control group. After three years of nursery school training, this group had gained an average of 5.8 over the first year and the control group made a gain of 4.0 points. It was concluded that "those who have had this training do no better on standardized intelligence tests than those who have not had it. . ."³

In another attempt to determine the influence of nursery school attendance upon mental growth, Arden and Barlow equated

²F. L. Goodenough and K. M. Maurer, "The Mental Development of Nursery-School Children Compared with that of Non-Nursery-School Children," *Thirty-ninth Yearbook*, pp. 161-178.

³Ibid., p. 176.

a group of thirty nursery school children with a non-attending group of twenty-eight for age, socioeconomic status, home-habit training, and approximately for sex.⁴ They were tested with the Revised Stanford-Binet Test with a four to nine months' interval between tests. The experimental group gained 3.34 I.Q. points as compared with a gain of 0.53 points for the control group. The gain of the nursery school group was statistically significant; however, the difference in gains between the two groups was not significant.

In the Thirty-ninth Yearbook published by the National Society for the Study of Education, Beth Wellman summarized the investigations made at the University of Iowa on mental development of preschool children who were followed through grade school, high school, and college.⁵ Six hundred children who had attended at least one year made an average gain of 6.6 points between fall and spring tests, while 228 children who had complete records for two years made a net gain of 10.4 points. It was found that even for children attending three years greatest gains were made in their first year and the average gain for three years was about ten points.

When thirty-four pairs of preschool and non-preschool children were matched for age and I.Q., the non-preschool

⁴Arden Frandsen and Frances P. Barlow, "Influence of the Nursery School on Mental Growth," *Thirty-ninth Yearbook*, pp. 143-148.

⁵Beth L. Wellman, "Iowa Studies on the Effects of Schooling," *Thirty-ninth Yearbook*, pp. 377-399.

children showed a mean loss of 3.9 points from fall to spring while the preschool children gained 7.0 points. The difference was statistically significant.

Forty-seven preschool children who attended the University Elementary School were equated for I.Q. and age with forty-seven who attended other schools and were retested periodically over a four-year period. Those at the University School gained 5.6 points and those attending other schools gained 1.2 points.

Preschool children were matched with non-preschool children at the time of entrance into the first grade at the University School. Gain was made by the non-preschool children and slightly less gain was made by the preschool children. The peak of gains was reached in two years with a mean gain of 10.9 points.

The American Psychological Council Examination was given to matched groups of high school students of whom forty-one had attended preschool and forty-one had not. They were matched for initial I.Q. and number of years' attendance at the University Elementary School. The preschool group made a slightly higher score than the control group. Former preschool children, matched with non-preschool children for initial I.Q. and number of years' attendance at the University Elementary School, made higher scores on the University of Iowa entrance examination than the control group.

In reporting the results of a study conducted at the Merrill-Palmer Nursery School, Starkweather and Roberts⁶ stated: "This study, using methods of analysis comparable to Wellman's agrees with her findings on the relation between nursery school attendance and I.Q. changes."⁷ They examined the records of children tested during their nursery school attendance to see what changes occurred, then retested the children from one year to eight years and eleven months after their leaving the nursery. The results showed gains at the lower levels and losses at the higher levels. The changes occurring during nursery school attendance were maintained after withdrawal.

In the October 1945 issue of the Journal of Psychology Beth Wellman summarized the findings of the various studies in the literature on group I.Q. changes of preschool and non-preschool children during the preschool years.⁸ She selected fifty pertinent studies and categorized them according to the type of scale used: Merrill-Palmer, the Binet scales and other scales. The preschool groups led in gains when tested by either the Binet or the Merrill-Palmer scales. Of twenty-two preschool groups, 50 per cent gained six or more points

⁶E. K. Starkweather and K. E. Roberts, "I.Q. Changes Occurring During Nursery-School Attendance at the Merrill-Palmer School," Thirty-ninth Yearbook, pp.315-335.

⁷Ibid., p. 335.

⁸Beth L. Wellman, "I.Q. Changes of Preschool and Non-Preschool Groups During the Preschool Years: A Summary of the Literature," Journal of Psychology, XX (October 1945), 347-368.

while only 14 per cent of the non-preschool groups made similar gains. When the Iowa studies were removed from the group under consideration, 40 per cent of the other preschool groups gained six or more points and 78 per cent of the other non-preschool groups did not make changes as high as a two-point gain.

The Bonham-Sargent Scale of personality traits was administered by M. E. Walsh to a group of children who had attended nursery school for six months and a group who had not attended in order to determine the difference in personality traits.⁹ Twenty-two nursery school children were matched with twenty-one controls for age, I.Q., general physical development and home background. She found that the nursery group was less inhibited, more spontaneous, more socialized, and had developed more initiative, independence, self-assertion, self-reliance, and better habits of health and order than the control group.

Kawin and Hoefer found practically no measurable differences between two- and three-year-old children who had attended the Merrill-Palmer Nursery School for six or seven months and those who had not attended preschool.¹⁰ Upon first

⁹M. E. Walsh, "The Relation of Nursery School Training to the Development of Certain Personality Traits," Child Development, II (March 1931), 72-73.

¹⁰Ethel Kawin and Carolyn Hoefer, A Comparative Study of a Nursery-School Versus a Non-Nursery-School Group, pp. 1-50.

entering nursery school twenty-two children were paired with a control group for sex, chronological age, mental age, and physical status. Merrill-Palmer Performance Tests administered in the fall and spring showed gains for both groups--11.3 months of mental age for the nursery group and 11.4 months for the non-nursery group--but no difference between the two groups. Fourteen different physical traits were measured and general physical condition was rated in six different areas. No difference was found between the groups after a lapse of six months. An attempt was made to obtain finding on "habit status"; however, "lack of standardized instruments and uncontrolled home situations made the reliability and validity of data gathered under such limitations questionable."¹¹ When all habits were totaled, the nursery-school showed a larger percentage of improvement. Kavin and Hoefer conclude:

Those who are in contact with children attending nursery schools see many individual cases where the benefits of nursery-school experience seem quite obvious to the observer interested in a particular child. Until some method for measuring personality as a whole has been formulated, studies such as this cannot attempt to evaluate nursery-school experience for the individual child.¹²

In trying to determine the influence of preschool attendance upon the behavior and personality of the preschool

¹¹Ibid., p. 50.

¹²Ibid.

child, B. W. Hattwick matched children from seventeen nursery schools for age, sex, nationality and race, and economic level.¹³ One group had attended an average of six weeks and the other group had attended an average of nine months. There were 106 children in each group and each child was rated by three different raters whose median agreement on the validity measure was 89 per cent. (The rating scale was a specially devised form containing sixty behavior items indicative of routine habits and personality characteristics. Each item was rated in one of five categories of frequency. The study resulted in the following conclusions: (1) Nursery school attendance brings about improved social adjustment; such as, more play with others, more sharing, fewer aggressive actions towards others. (2) Three-year-olds become more dependent upon adults with longer attendance through such behavior as showing off, seeking praise, and asking unnecessary help. (3) Inhibitions decrease and expressive behavior increases. (4) Eating habits improved, but more so at the three-year-old level than at the four-year-old level. (Hattwick suggests the possibility that "the influence of the nursery school may be greater for social behavior and routine adjustments than for emotional traits per se."¹⁴)

¹³B. W. Hattwick, "The Influence of Nursery School Attendance upon the Behavior and Personality of the Preschool Child," Journal of Experimental Education, V (December 1936), pp. 180-190.

¹⁴Ibid., p. 188.

Using the Behavior Maturity Rating Scale, Walther Joel found a significant difference between two groups of children who had attended nursery school.¹⁵ Four hundred twenty-five children from twenty months to six and one-half years were matched for age and divided into two groups according to length of attendance. Teachers rated the children on twenty items, with five different reactions each, which included routine habits, emotional maturity, and social maturity. The group which had attended nursery school longer had a higher behavior maturity index. ". . . the items indicating social maturity contribute most to this difference."¹⁶

In an unpublished master's thesis, G. J. Phillips reported data collected to determine the significance of kindergarten experience in regard to the personal and social development of young children.¹⁷ She matched eighty pairs of children with and without kindergarten experience on sex, age, race, place of residence, occupational status, living with parents or others and I.Q. All subjects were administered the California Test of Personality and the means of the two groups were computed for total adjustment,

¹⁵ Walther Joel, "The Influence of Nursery School Education upon Behavior Maturity," Journal of Experimental Education, IX (December 1939), 164-165.

¹⁶ Ibid., p. 165.

¹⁷ Georgia J. Phillips, "Kindergarten Training as a Factor in the Social Adjustment of a Selected Group of Young Children," Unpublished Master's thesis, Eastern New Mexico University, 1953.

self-adjustment, social adjustment, and twelve sub-factors. There was no significant difference found between the two groups on any components.

H. M. Cushing made a study of the adjustment of nursery school children to kindergarten as estimated by kindergarten teachers.¹⁸ In what she considered a "tentative" report, she stated that although the nursery group was an average of four months younger than the average for the several different kindergartens, 80 per cent were rated as average or better on the rating scale. Thirty-three nursery graduates were matched for age with twenty-five children in the kindergarten groups. Mean I.Q. for experimental group was 120; for controls, 107. In comparison to the control group, the nursery school group was not greatly different, however, it did appear to be somewhat superior in "total adjustment to the situation" and "considerably more so in general attitude."¹⁹

An extensive follow-up of 165 children who graduated from Winnetka Nursery School between the years 1928-36 was carried on by Dorothy Van Alstyne and LaBerta Hattwick.²⁰

¹⁸Hazel M. Cushing, "A Tentative Report of the Influence of Nursery School Training upon Kindergarten Adjustment as Reported by Kindergarten Teachers," Child Development, V (December 1934), 304-314.

¹⁹ibid., p. 311.

²⁰Dorothy Van Alstyne and LaBerta A. Hattwick, "A Follow-Up Study of the Behavior of Nursery School Children," Child Development, X (March 1939), 43-72.

Mothers, teachers and observers rated the children during their nursery school attendance and later in kindergarten and grade school. Systematic records were also kept much of the time. Measuring devices were the Haggerty-Olson-Wickman Behavior Rating Scale adapted to nursery school behavior and, *later* after it was designed, the Winnetka Scale for Rating School Behavior and Attitudes. (Correlation between observer and "present teacher" of the child on mental and social traits were .52 and .49, respectively. Higher predictability was found in physical (.50) and social (.46) traits than in emotional traits (.35). Correlation between mental ability in nursery school and grade school was -.03.

The better-adjusted group in elementary school had been the better-adjusted group in nursery school, and also differed to a significant degree from the poorly-adjusted group in both cases. Significant differences were in self-control in failure or unpleasant situations, cooperation, in discussion of their problems, adaptability in leadership and respect for their own and other's problems. The less well-adjusted group was outstanding in extreme submissiveness to frustrations or unpleasant situations.

In comparison with the behavior norms of the general Winnetka School population (using the Winnetka Scale), the group had from 3 to 18 per cent better scores than the norm-- better emotional adjustment and leadership, reaction to failure, independence of adult approval and direction of

group tasks. The authors observe that the group was probably originally a somewhat selected and superior group. They conclude: "The whole trend of the results, however, shows how closely behavior in the nursery school parallels that of the upper grades."²¹

In another study of Winnetka Nursery School graduates, W. H. Voas reported the following results:²² (1) The mean I.Q. of the nursery school group was the same as that of the entire school population (nursery, 115; school, 114); (2) reading achievement was no different from the average of the balance of the school population; (3) whereas 39.5 per cent of the nursery-school group had been referred to the school psychiatrist, 18.6 per cent of the balance of the school population had been referred.

Since a rating scale (Winnetka Scale for Rating School Behavior and Attitudes) and data on sociometric choices are the two measuring devices used in this study, the author will present various opinions and studies concerning their usefulness, reliability and validity.

J. W. Lynch attempted to analyze the psychological principles involved in constructing and administering rating

²¹ Ibid., p. 67.

²² W. H. Voas, "Does Attendance at the Winnetka Nursery School Tend to Raise the I.Q.?" Thirty-ninth Yearbook, pp. 363-376.

scales.²³ He ^{thinks} surmised that since the best rating scales ask for specific traits to be examined and concrete statements about behavior to be made, it is assumed that the rater is not at all interested in the inner life of the individual with his particular images, thoughts, ideas and feelings. Good rating scale practice is to consider and rate one ability at a time, to evaluate each quality independently of other qualities. Therefore, though the individual is viewed as-a-whole in his natural setting, the rating scale procedure implies that the whole is a sum of its parts. He arrives at the conclusion that, although the rating scale is apparently free from theoretical considerations, it definitely "leans toward and approximates quite closely the standpoint of the behavioristic school."²⁴

The sphere of usefulness of the rating scale may be described thus:

They (rating scales) may be used to describe the behavior of individuals, the activities of an entire group, the changes in the situation surrounding them or many other types of data. Rating scales often provide more superficial and less reliable data than do well-developed category systems. However, practical limitations may force one to rely upon this method to guide observations . . . The greater the precision required, the less one is likely to use rating scales.²⁵

²³J. M. Lynch, "Psychology of the Rating Scale," Educational Administration and Supervision, XXX (November 1944), 497-501.

²⁴Ibid., p. 500.

²⁵R. W. Heyns and A. F. Zander, "Observation of Group Behavior," Research Methods in the Behavioral Sciences, edited by Leon Festinger and Daniel Katz, pp. 393, 398.

After several years of development and revision of the Winnetka Scale, Dorothy Van Alstyne reported the standardization procedures in the Journal of Educational Psychology.²⁶ The purpose was to formulate a scale for rating the emotional and social aspects of the personality of children from the nursery school through the sixth grade. It was decided that the scale must deal with actual classroom situations, response levels should be in terms of specific incidents and should be gathered from wide age range, and adequate norms should be established. The sampling included children from nursery school to sixth grade. Two hundred fifty children were given the original tentative form. The revised form, with general headings such as "responsibility" and "cooperation" omitted and response levels arranged in random order, were used to rate over 1200 children in Winnetka and Chicago schools and rural schools in Kansas. Responses were actual incidents occurring in the classroom. A large group of teachers arranged response levels in order of desirability.

When decile scores were calculated for 1128 ratings made on Winnetka children, medians for each grade were almost the same. Minimum reliability for the complete scale, determined by correlation of two ratings made by eight teachers at intervals of two to eight weeks, is .87. Obtained

²⁶Dorothy Van Alstyne, "New Scale for Rating School Behavior and Attitudes in Elementary School," Journal of Educational Psychology, XXVII (December 1936), 677-693.

by correlation with social and emotional divisions of Haggerty-Olson-Wickman Behavior Rating Scale, validity is .71.

Katherine Read studied factors affecting agreement in teachers' ratings of nursery school children.²⁷ Thirty-one nursery school children were rated on an abbreviated form of Conrad's Behavior Inventory for Nursery School Children which employs a seven-point scale for each of sixty-seven traits. There were thirteen raters in all, and each child was rated by from four to seven judges. The amount of disagreement between judges was found by the difference between the lowest and highest rating made on each trait for all children. Read concluded:

Factors which appeared to influence the agreement of judges included: (1) the extent to which the trait involved direct overt expression, (2) the extent to which the relationship with the rater was involved, (3) the extent to which the rater's attention was likely to be directed toward the behavior, (4) the extent to which the rater was able to recognize the manifestation of the behavior and (5) the extent to which the child's behavior in respect to the trait was likely to vary.²⁸

The advantages and disadvantages of a rating-scale approach to the measurement of relative social status as compared with the partial-rank-order scale, which is employed in this

²⁷K. H. Read, "Factors Affecting Agreement in Teachers' Behavior Ratings of Nursery School Children," Journal of Experimental Education, IX (December 1940), 133-138.

²⁸Ibid., p. 137-138.

study, were examined by Thompson and Powell.²⁹ They found that the partial-rank-order scale was more stable in identifying the extremes, i.e., the high and low choices; whereas the rating scale, which used a list of the entire class and forced each child to make a choice about every other child, differentiated better between isolates and active rejects and pointed up an individual pupil's position better.

The constancy of sociometric scores has been studied extensively by Bonney.³⁰ He gathered data over a period of four years from second, third, fourth and fifth grades in three Denton, Texas schools in order to determine:

(1) . . . the constancy of sociometric data as compared with the constancy of measurements of intelligence and academic achievement, (2) the relation between social status as measured by pupil choices and social success as measured by teacher judgments, and (3) the relation between sociometric scores and the results obtained from a personality self-rating scale.³¹

Through choosing situations, averaging six a year, each child was placed in a relative position to his classmates

²⁹G. G. Thompson and Marvin Powell, "An Investigation of the Rating-Scale Approach to the Measurement of Social Status," Educational and Psychological Measurement, XI (Summer, 1951), 440-455.

³⁰Merl E. Bonney, "The Constancy of Sociometric Scores and Their Relationship to Teacher Judgments of Social Success, and to Personality Self Ratings," Sociometry, VI (November, 1943), 409-424.

³¹Ibid., p. 409.

and mutual friendships were quantified. Correlation coefficients were computed showing degrees of constancy between successive grade levels (second and third, third and fourth, fourth and fifth) in social success, intelligence, and academic achievement. Intelligence was found to be most constant (.76, .86 and .75). Next was academic achievement (.60, .83, .73), general social acceptance (.84, .77, .67) and mutual friendships (.41, .49, .45). Correlation coefficient for best friends (50 cases) was .47 and for best leaders (50 cases), .74. "General social acceptance is shown to be approximately as constant between the second and fifth grades as are intelligence and academic achievement." To further his point Bonney stated that in eight cases children changed from one school to another in Denton and in every case his social acceptance score was very much the same in all schools.

The children rated by teacher judgments were arranged in quintiles for sociometric scores and compared with teacher ratings. "Approximately 90% of the children were placed by the teachers, either in the same quintile, or only one removed from that in which they were placed by pupil choices."³²

³²Ibid., p. 419.

CHAPTER III

RESULTS OF THE STUDY

This chapter will discuss the findings of the study and tell how they were calculated.

The first, second, and third choices of the children were weighted so that first choice received three points, second choice received two points, and third choice, one point. The weighted scores for each child were added and used in computing the differences.

The data obtained from the Winnetka Scale for Rating School Behavior and Attitudes were treated separately for each of the five areas considered in its profile--cooperation, social consciousness, emotional adjustment, leadership, and responsibility--and for the total obtained by adding subscores for each child.

In order to determine the significance of the difference between the means of the nursery and non-nursery groups, the difference between the means, the t-score, and the level of significance were determined for the sociometric data and the Winnetka Scale. The sociometric data were treated separately for each of the two schools involved and also for the total children in both schools. The data

for the Winnetka Scale were confined to the four classes at North Texas State College. The appropriate formula for small samples which was used to determine the significance of the difference between means is:

$$t = \frac{M_D}{\sqrt{\frac{\sum D^2 - M_D^2}{N-1}}}$$

The levels of confidence were derived from Fisher's Table of t.

Table 1 summarizes the results of the sociometric study. The levels of confidence found in the right-hand column, indicate the significance of the difference between the mean weighted groups separately and when together. The differences between the groups taken separately were not significant. For the Texas State College for Women group the confidence level is .05-.10, therefore approaching significance; for the North Texas State College group the confidence level is .10-.20 and not significant. In both schools the difference is in favor of the nursery school group and, when treated as a single group of thirty-nine pairs, the difference was found to be significant at the .02 level.

TABLE 1
DIFFERENCES BETWEEN NURSERY AND NON-NURSERY
GROUPS IN SOCIOMETRIC CHOICES

School	Number	Mean Difference	Standard Error of Difference Between Means	T-Score	Level of Confidence
NTSC	23 pairs	2.17	1.5	1.45	- -
TSCW	16 pairs	4.56	2.4	1.9	.05-.10
Total	39 pairs	3.15	1.3	2.4	.02

From the foregoing data, we may conclude that the two groups of Denton children studied differ in the way that their classmates react to them. In selecting companions for recreational activities, their classmates selected more frequently children who had had nursery school experience.

The results of the behavior rating scales, the teachers' views given on a forced-choice basis, paint a somewhat different picture. As indicated in Table 2, only one of the six categories showed differences between the groups approaching significance. Interestingly enough for the purposes of this study, that category was "social consciousness" for which the difference was significant at the .05 level of confidence.

TABLE 2
DIFFERENCES BETWEEN NURSERY AND NON-NURSERY GROUPS
OR BEHAVIOR RATING SCALE FOR 23 PAIRS

Category	Mean Difference	S.E. of the Difference Between Means	T-Score	Level of Confidence
Cooperation	.187	.28	.66	- -
Social Consciousness	.565	.29	1.94	.05
Emotional Adjustment	.739	.6	1.23	- -
Leadership	.121	.608	.19	- -
Responsibility	.656	.608	1.07	- -
Total For 13 Ratings	.435	6.73	.065	- -

It should be remembered that only twenty-three pairs were included in the Winnetka Scale data. Since the sociometric data for the larger group was significant when for the two groups taken separately, it was not, there is a possibility that the same thing would hold true for the rating scale data, particularly in the areas of emotional

adjustment and responsibility whose t-scores were 1.23 and 1.07 respectively.

Statistically insignificant differences favored the non-nursery group in leadership, responsibility, and total scores for the rating scale. Insignificant differences favored the nursery school group in cooperation and emotional adjustment. As indicated in Table 2 the t-score for the "Total for 13 Ratings" shows very little difference between the two groups.

Table 3 presents frequencies of particular types of choices for both nursery and non-nursery groups in each of the six classes separately and then compares the total thirty-nine pairs from all classes. The first category, "Mutual First Choice," means that one of the children in the study named a child as first choice and that child also selected him first. The highest number of mutual first choices occurred in the second grade with three in the nursery group and two in the non-nursery group. From the five pairs choosing in the third grade, one nursery school graduate and three non-nursery school children made mutual first choices. There were no strongly mutual choices in either kindergarten.

All mutual choices except mutual first choices are summed up in the "Moderately Mutual" column. Here there are fewer mutual choices in the kindergartens than in the grades. There are fewer mutual choices in four of the non-nursery groups than in the matching groups, and in two classes there

TABLE 3
 FREQUENCIES OF VARIOUS TYPES OF PAIRED RELATIONSHIPS

School	Number	Classes	Mutual First Choice	Moderately Mutual	Inter-Sex Choices Given	Inter-Sex Choices Received
NTSC	5	Nursery	0	2	9	9
Kindergarten	5	Non-Nursery	0	1	3	4
NTSC	7	Nursery	2	6	3	3
First Grade	7	Non-Nursery	1	6	5	5
NTSC	6	Nursery	3	7	0	3
Second Grade	6	Non-Nursery	2	4	2	3
NTSC	5	Nursery	1	5	0	0
Third Grade	5	Non-Nursery	3	5	0	0
TSCW	8	Nursery	0	5	11	13
Kindergarten	8	Non-Nursery	0	4	6	5
TSCW	8	Nursery	1	10	3	8
First Grade	8	Non-Nursery	1	4	5	4
Total for Both Schools	39	Nursery	7	35	26	36
	39	Non-Nursery	7	24	21	21

were an equal number of moderately mutual choices in both groups. In considering the "Inter-Sex-Choices Given" column it may be seen that the two kindergarten groups accounted for most of the girl-boy and boy-girl choices, and the nursery school group accounted for twenty out of twenty-nine choices in

third grade. As has been mentioned earlier, the kind of choice--that of choosing camp buddies--may have discouraged selection of the opposite sex.

It is interesting to note that the "Inter-Sex-Choices Received" total rose ten points over the "Inter-Sex-Choices Given" column for the nursery school group and remained the same for the non-nursery group. Several boys and girls in the study who were chosen frequently by their classmates also received a number of choices from members of the opposite sex.

It is seen in looking at the totals that in every category except "Mutual First Choice", where the scores were tied, the nursery school group had higher raw scores. The greatest difference occurs in the "Inter-Sex-Choices Received" column where the scores are thirty-six and twenty-one points with a difference of fifteen.

Of the six children who received the highest weighted scores in their respective classes, three were former nursery school pupils and three were not. On the other hand, there were twenty-four children in the six classes who received no votes at all. Of these, six were former nursery school pupils and eighteen had no record of attendance. These figures are taken from the classes as a whole irrespective of whether or not they were used in the study.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to attempt to discover any observable differences in social behavior between elementary school pupils who have attended nursery school and those who have had no nursery school experience.

The sampling consisted of seventy-eight children from the kindergarten, first, second and third grades of North Texas State College and from the kindergarten and first grade of Texas State College for Women. They were matched for sex, grade, socioeconomic level, grade, number of children in family and some attempt was made to equate academic ability. Thirty-nine had attended one of the college nursery schools at least one semester and thirty-nine had attended neither of the college nurseries or any other, so far as could be ascertained.

Measuring devices were partial-rank-order sociometric choices of all children in the class for their classmates and the Winnetka Scale for Rating School Behavior and Attitudes filled out by the teachers for the children involved in the study. First, second and third choices for

playmates were given by the children. These choices were weighted and the weighted scores used to compute the reliability of the difference between the means. The scores in the five areas of school behavior and attitudes plus the sum of thirteen ratings for each child were used to determine the reliability of differences between the means of the two groups in these areas.

Conclusions

The general conclusions reached in regard to the group studied are as follows:

1. Taken as a whole group the nursery school children were selected more often as companions in the elementary school than their fellow classmates who had not attended nursery school. For the thirty-nine pairs included in the sociometric choices the reliability of the difference of the means was found to be significant at the .02 level of confidence.

2. Although the differences were in favor of the nursery school groups in the two schools taken separately, they were not significant.

3. Taken as a whole the nursery school group made more moderately mutual choices than the paired group.

4. There were a few more inter-sex choices given by the nursery group and more inter-sex choices received by the nursery group in comparison to the non-nursery group.

5. Of the six categories of the Winnetka Scale which were treated statistically, only social consciousness approached a significant difference (.05 level).

On the basis of the findings of this study it appears that on the average the children who have had nursery school experience are more often desired as companions, than those with no nursery school experience. There are, however, individuals who are outstanding exceptions.

It is possible that home backgrounds differed aside from socioeconomic level. Perhaps children who are sent to nursery school come from homes whose parents are above average in social adeptness and strive to give their children more kinds of experiences that tend to develop acceptable social behavior. Nevertheless, with the weight of the evidence in favor of the nursery school group, it would appear that they have benefited in the area that they would logically be expected to benefit--that of social adjustment and behavior.

BIBLIOGRAPHY

Bonney, Merl E., "The Constancy of Sociometric Scores and Their Relationship to Teacher Judgments of Social Success, and to Personality Self Ratings," Sociometry, VI (November 1943), 409-424.

✓ Cushing, Hazel M., "A Tentative Report of the Influence of Nursery School Training Upon Kindergarten Adjustment as Reported by Kindergarten Teachers," Child Development, V (December 1934), 304-314.

Hattwick, Berta W., "The Influence of Nursery School Attendance upon the Behavior and Personality of the Preschool Child," Journal of Experimental Education, V (December 1936), 180-190.

Heyns, Roger W. and Alvin F. Zander, "Observation of Group Behavior," Research Methods in the Behavioral Sciences, edited by Leon Festinger and Daniel Katz, New York, The Dryden Press, 1953.

✓ Joel, Walther, "The Influence of Nursery School Education upon Behavior Maturity," Journal of Experimental Education, IX (December 1939), 164-165.

✓ Rawin, Ethel and Carolyn Hoefler, A Comparative Study of a Nursery-School versus a Non-Nursery-School Group, Chicago, University of Chicago Press, 1931.

Lynch, James M., "Psychology of the Rating Scale," Educational Administration and Supervision, XXX (November 1944), 497-501.

Phillips, Georgia J., "Kindergarten Training as a Factor in the Social Adjustment of a Selected Group of Young Children," Unpublished Master's thesis, Eastern New Mexico University, 1953.

✓ Read, Katherine H., "Factors Affecting Agreement in Teachers' Behavior Ratings of Nursery School Children," Journal of Experimental Education, IX (December 1940), 133-138.

Thirty-ninth Yearbook of the National Society for the Study of Education, Intelligence: Its Nature and Nurture, Part II, Original Studies and Experiments, Bloomington, Illinois, Public School Publishing Co., 1940.

- Anderson, L. Dewey, "A Longitudinal Study of the Effects of Nursery-School Training on Successive Intelligence-Test Ratings," pp. 3-10.
- Freudsen, Arden and Frances P. Barlow, "Influence of the Nursery School on Mental Growth," pp. 143-148.
- Goodenough, Florence L. and Katherine M. Maurer, "The Mental Development of Nursery-School Children Compared with that of Non-Nursery School Children," pp. 161-178.
- Starkweather, Elizabeth K. and Katherine E. Roberts, "IQ Changes Occurring During Nursery-School Attendance at the Merrill-Palmer School," pp. 315-335.
- Voas, William H., "Does Attendance at the Winnetka Nursery School Tend to Raise the IQ" pp. 363-376.
- Wellman, Beth I., "Iowa Studies on the Effects of Schooling," pp. 377-399.
- Thompson, George G. and Marvin Powell, "An Investigation of the Rating-Scale Approach to the Measurement of Social Status," Educational and Psychological Measurement, XI (Summer, 1951), 440-455.
- Van Alstyne, Dorothy and LaBerta A. Wattwick, "A Follow-up Study of the Behavior of Nursery School Children," Child Development, X (March 1939), 43-72.
- Van Alstyne, Dorothy, "New Scale for Rating School Behavior and Attitudes in Elementary School," Journal of Educational Psychology, XXVII (December 1936), 677-693.
- Van Alstyne, Dorothy, Winnetka Scale for Rating School Behavior and Attitudes, Winnetka, Illinois, Winnetka Educational Press, 1937.
- Walsh, Mary Elizabeth, "The Relation of Nursery School Training to the Development of Certain Personality Traits," Child Development, II (March 1931), 72-73.
- Wellman, Beth L. "IQ Changes of Preschool and Nonpreschool Groups during the Preschool Years: A Summary of the Literature," Journal of Psychology, XX (October 1945), 347-368.