THE EFFECTS OF PRESCHOOL INTERVENTION ON KINDERGARTEN CHILDREN

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

On April 11, 1965, President Lyndon B. Johnson signed into law the Elementary and Secondary Education Act of 1965. The Act was one of the largest single commitments by the Federal government to further the cause of education. There were five titles of the Elementary and Secondary Education Act designed to support four major educational tasks. Title I of the Act was designed in recognition of the special educational needs of children from low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs.

The Act provided for financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve those educational programs which contribute particularly to meeting the special educational needs of educationally deprived children. Grants were made available to local education agencies through state departments of education after the approval of a submitted proposal.

The Title I program in the Wichita, Kansas, Public Schools was initiated during the spring semester of the 1965-1966 school year. Prior to the implementation of the program a comprehensive needs assessment was conducted which identified the eligible school attendance areas and the high priority educational needs of the district's eligible children. Wichita's initial Title I program was a comprehensive package with many component parts which included remedial instruction, guidance and counseling services, health services, and food services. The focus of the program was on language development and personal adjustment. The major thrust of the program was directed toward remedial reading instruction. In addition to containing many component parts, the initial program was directed toward most of the eligible children and schools at both the elementary and secondary levels in the district.

As a result of changing Federal guidelines, updated needs assessment information and program research data the global aspects of the program slowly changed. The resulting project included primarily elementary children, and remedial instruction was limited mainly to reading and mathematics. A limited portion of the available funds was spent on preschool education in an effort to provide additional slots for a Head Start experience for the district's low-income children. Fewer children and schools were served and auxiliary services were slowly shifted to other programs and agencies. The concentration of the limited funds on fewer

programs and children offered promise for greater and longer lasting educational gains for the children served.

Throughout the history of Wichita's Title I program an effort has been made to discover better ways of meeting the special educational needs of its Title I eligible children and to implement innovative programs and ideas. One of the most recent programs added to the project's list of activities was the Three-Year-Old Program.

The Wichita Public Schools applied for and received Federal funds to conduct a small, pilot preschool program for Title I eligible, three-year-old children during the 1971-1972 school year. This program experience was to be in addition to the preschool training these children, along with many other children, would receive as four-year-olds in Head Start or Title I preschool programs during the 1972-1973 school year. Thirty-two children from the high concentration of low-income families in the local school district, eligible for kindergarten in the fall of 1973, participated in the initial program. In the years following, the funding for the program and the number of participating children increased. The program was designed to provide preschool experiences which would improve the kindergarten readiness of these children and hopefully result in more effective academic achievement and improved self-concepts in later years.

There was no plan by the local school district, however, to evaluate the cognitive and affective development of these

children, as a group, on a longitudinal basis or to compare their performance to comparable children without the three-year-old preschool experience.

The purpose of this study, therefore, was to determine the effects of preschool intervention, initiated at different age levels and continued for different lengths of time, on the school readiness, self-concept and attendance of three groups of kindergarten children.

Of the three groups of children included in the study, one group had two years of preschool experience, a second group had one year of preschool experience and the third group had no formal preschool experience prior to entering kindergarten. The preschool programs attended by the children in the first two groups were operated by the Wichita Public Schools under the auspices of Head Start, P. L. 88-452, and Title I, P. L. 89-10. The children included in the third group, although eligible for the above programs, were not served basically because of an insufficient number of available slots.

Justification for the Study

Justification for the study may be derived from several sources. First, there is a quality of uniqueness that may be noted in regard to this effort to provide preschool experience for three-year-old children. With the notable exception of Head Start, most compensatory education programs are implemented at the regular elementary and secondary grade

levels, kindergarten through the twelfth grade. U. S. Department of Health, Education and Welfare data indicate that through Title I funding, the largest single source of Federal compensatory education funds for elementary and secondary schools, relatively few programs for three-year-old children exist in the United States. Therefore, an in-depth study of the program may be partially justified on the basis of the unique contribution the results might have for the data base concerning compensatory education programs.

Second, while there is a national effort to meet the individual educational needs of all learners, the data indicate that many hundreds of thousands of children continue to advance from grade level to grade level without the necessary skills for success at the next higher level. Although many school districts nationwide have implemented preschool programs in their approach to meeting the special educational needs of children from low-income families, few of these programs have included participants below the four and five-year-old age groups. Preschool programs for children below the age of four, when operated in conjunction with other preschool programs, may make valuable contributions toward meeting the special educational needs of these children. Therefore, this study may be justified, in part, on the basis of the contribution the results might have for the national effort in meeting the special educational needs of low-income children.

Third, a city the size of Wichita with a large concentration of children from low-income families, and which receives Federal compensatory education funds to supplement state and local funds, must constantly compile planning data in regard to the most advantageous manner to utilize these funds for the benefit of the eligible school population. Therefore, the study may be partially justified on the basis of the contribution the data might make to the local planning data bank.

Finally, most compensatory education programs, such as the Three-Year-Old preschool program, are evaluated on a pre-test and post-test basis and the educational gains, if any, reported upon termination of the educational program. The feasibility of compensatory education programs must be assessed on the basis of lasting gains as well as immediate gains. Such an assessment can only be attained through longitudinal research.

Rationale for the Study

The rationale established for this study is based upon the relationship school readiness, self-concept and attendance have to the goal aspects of the preschool programs under consideration in this investigation, and the relationship these variables have to the success realized by children from their formal educational experiences.

The progress young children make when they enter school in the primary grades depends to a large extent on their

readiness for learning as well as on the provisions the school makes for variations in readiness. The three and four-year-old preschool programs under consideration in this study were intended, in part, to provide experiences which would enhance the participating children's readiness for learning. Planned intervention at an earlier age level and continued for a longer period of time should increase the readiness for learning of young children and thus enhance their progress in the primary years.

Self-concept tends to be formed at an early age and tends to remain rather stable throughout life. Ample evidence has been accumulated to demonstrate a positive relationship between self-concept and achievement and to isolate adequate self-concept as one of the important variables contributing to the success children derive from their formal education. Earlier intervention, for a longer period of time, with programs designed to assist in the development of a more adequate self-concept in young children should make important contributions to the success enjoyed by children in school.

Another factor contributing to the degree of success young children derive from their formal educational experiences is the involvement of their parents in their educational endeavors. The children providing data for this investigation participated in preschool programs which made provision for parent involvement in program planning, operation, and evaluation. In the primary years, and

especially when parent involvement has been an aspect of preschool programming, the school attendance of low-income children is an indicator of both parent and student aspirations and convictions in regard to schooling.

Therefore, school readiness, self-concept, and attendance were selected as variables for this investigation because they represent goal aspects of the preschool programs used as treatment for this study, and because they represent important factors toward determining the success children derive from their formal educational experiences.

Purpose of the Study

The purpose of this study was to determine whether three groups of kindergarten children in the Wichita Public School System demonstrate any significant differences in school readiness, in adequacy of self-concept, or in school attendance after preschool experiences initiated at different age levels and continued for different lengths of time.

Answers to the following questions will be sought: (1) Do children who received two years of preschool training and who are now at the kindergarten grade level differ in school readiness when compared to comparable children who received only one year of preschool training, or when compared to comparable children who received no formal preschool training? (2) Are children at the kindergarten grade level who received two years of preschool training different in their self-concept when compared to comparable

children who received only one year of preschool training, or when compared to comparable children who received no formal preschool training? (3) Does the school attendance of children who received two years of preschool training and who are at the kindergarten grade level differ when compared to comparable children who received only one year of preschool training, or when compared to comparable children who received no formal preschool training?

Statement of Hypotheses

The following null hypotheses were formulated for the purposes of this study:

Main Hypotheses

1. There is no significant difference between the readiness scores of those students involved in three different levels of preschool training.

2. There is no significant difference between the self-concept scores of those students involved in three different levels of preschool training.

3. There is no significant difference between the amount of school attendance of those students involved in three different levels of preschool training.

Supplemental Hypotheses

1. The readiness scores of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training.

2. The readiness scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

3. The self-concept scores of those students receiving preschool training will not be significantly higher than

those of students receiving no preschool training.

4. The self-concept scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

5. The amount of school attendance of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training.

6. The amount of school attendance of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

Definition of Terms

The following terms and definitions were included for the purpose of clarity and understanding of the study.

Three groups of five-year-old children, enrolled in kindergarten in the local school district during the 1973-1974 school year, were used in this study. The children were grouped on the basis of preschool experience. The preschool experiences which were used to differentiate the three groups for the purposes of the study are as indicated below:

Group I. Group I consisted of pupils who had two years of preschool experience, including one year as a participant in the Three-Year-Old Program during the 1971-1972 school year, and one year as a participant in Head Start or the Title I Preschool Program for four-year-olds during the 1972-1973 school year.

Group II. Group II consisted of pupils who had one year of preschool experience in Head Start or the Title I Preschool Program for four-year-olds during the 1972-1973 school year.

Group III. Group III consisted of pupils who had no formal preschool experience prior to entering kindergarten although they were eligible to be included in the above programs.

Local School District. Wherever the term "local school district" appears in this study it will refer to the Wichita Public School System, Unified School District No. 259, Wichita, Kansas. The local school district operated the preschool programs and kindergarten classes used to obtain the data for this study.

Readiness. Good (1973, p. 472) defined readiness as the willingness, desire, and ability to engage in a given activity, depending on the learner's level of maturity, previous experience, and mental and emotional set. Readiness as used in this study shall be limited to specific aspects of readiness for first-grade work as measured by a standardized group readiness test.

Self-Concept. McDaniel (1973, p. 3) defined student self-concept as that concept of self generated by and in the school setting. As used in this study a positive self-concept shall be a pupil's view of himself as competent in the school setting and as accepted by classmates and adult school personnel within that setting.

Assumptions of the Study

The following assumptions were formulated and are applicable to this study:

1. The Metropolitan Readiness Tests, Form A, are a reliable and valid measure of school readiness skills and abilities.

2. The subjects' responses to the items on the Metropolitan Readiness Tests were accurate and therefore the scores on the instruments were indicative of the subjects' true readiness score.

3. The Student Self-Concept Rating Scale as developed by Phillips and Marriott (1973) provides a reliable and valid instrument for measuring student self-concept.

4. The teachers' responses to the items on the Student Self-Concept Rating Scale were accurate and therefore the scores on the instruments were indicative of the students' true self-concept.

5. The three groups of children selected for this study are comparable in physical, social, and emotional development.

6. That school attendance data, especially for young children, are an indicator of parental aspirations and convictions in regard to schooling.

Limitations of the Study

The following limitations apply to this study:

1. This study was limited to kindergarten children from one local school district and to pupils eligible for specific programs sponsored by that district.

2. This study was also limited because the instruments used were only a sample of the measures that might have been used. Other instruments might have yielded different results.

3. This study is limited further because the sample used was not large enough or representative enough to generalize to the population of kindergarten children sampled.

Overview of the Study

This study consists of five chapters. Chapter I was intended to present the research problem including the background, justification and rationale for the study. The purpose of the study and hypotheses to be tested were also presented. Terms frequently used in the study were defined. Finally, the major assumptions and limitations of the study were stated. The format for the remaining four chapters will be as follows: Chapter II will present the selected, related literature reviewed for this study. The design of the study will be included in Chapter III. The analysis of the data collected for the study will be presented in Chapter IV. Chapter V will conclude the study with the summary, findings, conclusions, and recommendations for further research in areas related to this study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This review of related literature was undertaken with two major objectives in mind. The first objective was to examine documents retained in the local school district pertaining to the Three-Year-Old Program so that a description of the program could be developed and presented. The materials reviewed in developing the program description were largely of an unpublished nature. The documents were primarily in the form of project applications, interoffice communications, papers developed by project personnel relative to specific aspects of the program, project evaluations and materials with publication pending.

The second major objective was to review and report the results of related studies on preschool programs for low-income children where the length of time in preschool programming was an aspect of the research effort. In addition, this review of related studies was directed toward programs that included parent involvement as an aspect of preschool programming, that included three-year-old children and that investigated both the cognitive and affective growth of the participants, especially as they relate to kindergarten

The format for the presentation will be to present a brief description of the Three-Year-Old Program followed by the review of related studies and a chapter summary.

The Three-Year-Old Program

Overview of the Program

During the summer of 1971, the Board of Education of the local school district authorized a program to introduce groups of three-year-old children, from economically depressed areas of the school district, to learning experiences in a classroom environment and to enlist their parents in supportive activities to expand on the classroom learning experiences. The activity, developed in the context of Head Start and Title I programming was called the Parent/Child Program: Three-Year-Old Level. (Referred to as the Three-Year-Old Program throughout this paper.) The program was designed to encourage the active support of parents in providing preschool experiences which would improve the kindergarten readiness and self-concepts of the children and hopefully result in more effective academic achievement in later years. The program was approved for funding by the Title I Section of the Kansas State Department of Education under Title I, P. L. 89-10, of the Elementary and Secondary Education Act of 1965.

The Three-Year-Old Program was initiated during the 1971-1972 school year. The first group of children who

attended this program entered kindergarten in the fall of 1973. It was with this group of children that this investigation was primarily concerned.

Facilities for the Program

The Three-Year-Old Program was held at the Little Early Childhood Education Center, 1613 Piatt, in the local school district. In addition to this program, the facility also provided space for Head Start and other Title I preschool classes and activities. The several activities operating in one facility allowed for a more efficient use of personnel and encouraged cooperation among the various agencies involved.

As a former elementary school, modified for preschool use, the facility provided adequate space not only for classroom use but also for a variety of auxiliary services and activities. Space was provided for a school library, nurse's office, counselor's office and a school office. The facility also provided space for parent educators and social workers, parent meeting and activity rooms, and nursery facilities. In addition, the facility provided space for a lounge with a cooking area, and lunchroom facilities. The building was surrounded by a large playground appropriately equipped for preschool age children.

The Program Staff

The full and part-time staff involved in the program

included a program director, classroom teacher, instructional aide, librarian, nurse, counselor, speech therapist, parent educator-social worker, baby sitter and bus aide. The program and staff received support and assistance from a variety of divisions within the local school district as well as from other agencies.

Program Goals[1]

The educational program focused on the following goals for the children:

Self Confidence. To cultivate feelings of adequacy and independence. To cultivate the ability to cope with school related experiences and to be comfortable with adults outside the family circle. The dignity and self worth of each child were recognized and encouraged.

Cognitive Growth. To develop each child's abilities in thinking, discriminating, categorizing, becoming intellectually curious and in acquiring skills for gathering information. Emphasis was on discovery and exploration.

Language and Communication Skills. To provide for verbal interaction and for the stimulation of conversation. Experiences were provided to increase vocabulary and perception of the meaning of words in the vocabulary as well as the cultivation of receptive language in following directions and gaining information from listening.

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[1]The writer is indebted to Mrs. Ruth K. Nathan for supplying much of the information included in this section of the paper and the following section on the three-year-old classes from materials with publication pending.

Physical Coordination Skills. To develop physical coordination skills including the ability to use the body skillfully, the integration of muscles, nerves and bones for large muscle coordination, the development of eye-hand coordination and small muscle control, the ability to equalize objects to obtain balance, the development of motor patterns for grasping and controlling movements, and the development of body awareness and orientation to space.

Socialization Skills. To cultivate the ability to interact in positive ways with other children and adults, to work and play as a member of a group, and to share materials and equipment while at the same time acquiring an understanding of one's own rights and worth as a person.

The following program goals were established for the parents of the participating children:

1. To develop a more positive attitude on the part of parents toward their own ability to contribute to their children's educational experiences.

2. To develop a close, mutually supportive relationship between parents and teachers.

3. To develop an increased awareness on the part of parents of the activities which will assist in their children's educational development.

4. To prepare specific materials and activities for use by parents with their children at home.

5. To give parents an opportunity to express their educational goals for their children and to interpret the

educational program in terms of those goals.

6. To provide for life enrichment activities for parents in indicated areas of need and interest.

7. To develop a more positive attitude on the part of parents toward education and the school as an institution.

The following goals were established in relation to the local community:

1. To increase the awareness in the community to the needs of young children and to ways in which these needs can be met.

2. To provide a facility for the demonstration of appropriate child guidance and early childhood education practices.

3. To provide a laboratory school situation in which students can make judgments about their interest in careers in early childhood education and supplement course work with practical on-the-job experience.

The Classes

The classes for the program were organized with a maximum pupil load of sixteen pupils per class. Two classes were organized for the 1971-1972 school year. Both classes were served by the same teacher and instructional aide. Each class period was about three hours in length and classes were usually held five days per week. The 1971-1972 school year included approximately 181 teaching days.

During most of a typical class period the children moved from one activity center to another, working alone or in small groups. Although the amount of time allocated to each activity and the specific time of implementation varied according to the needs of the children and specific daily plans, the daily program included self selected activity, story and discussion time, rhythm games or dancing, snack time, toileting, resting time, outdoor activities, lunch time and preparation for going home.

The time schedule and related activities from one class period was as follows:

9:00 - 10:00 a.m.	A self selected activity period with activities selected from: creative art activities, dramatic play, working with manipulative objects, looking at books, listening to music, caring for pets, water play, informal language experiences, and playing with indoor toys and equipment. The work-play activities were concluded by putting materials away and using the bathroom.
10:00 - 10:15 a.m.	Snack time.
10:15 - 10:30 a.m.	Resting time with quiet music.
10:30 - 11:00 a.m.	An outdoor self selected activity period with activities selected from: outdoor water play, sandboxes, nature observation walks around the playground, and free play on playground equipment and large toys.
11:00 - 11:30 a.m.	Story and discussion time, music time with group games, and special projects.
11:30 - 12:00 a.m.	Lunch time.
12:00 - 12:15 p.m.	Evaluation and getting ready to go home.

Throughout the class period the teachers and other classroom personnel moved freely around the room anticipating

children's needs and interacting with individuals and groups of various sizes.

Parent Activities

Meetings were held for the children's parents on a weekly basis. The meetings were planned to coincide with the regular classroom schedule. The parents usually accompanied their children to and from school on the scheduled meeting days. Transportation and baby-sitting service were provided when needed and desired. The meetings were conducted jointly by the chairman of the parent group and by the parent coordinator-social worker. The program director and classroom teacher as well as other staff personnel and outside consultants frequently served as discussion leaders and resource personnel. Other district leaders were occasionally invited to discuss topics of broader educational concern to parents.

The major thrust of this activity was to encourage parents to take an active part in their children's education by means of reinforcing classroom experiences at home. Video-taping of classroom activities enabled parents to follow the children's progress and the ways in which teachers work with young children. Resource personnel frequently discussed topics concerning classroom emphasis and parents were furnished and instructed on the home use of a wide variety of related books, materials, and learning games as one means of reinforcing classroom experiences at home. These items

were often constructed by the parents during work sessions from materials furnished by the center.

In addition to the classroom activities, other topics covered during the year included child guidance techniques, child development, nutrition, health, sewing, educational toys, books and art. The usual format provided time and materials for parents to gain practical experience on each topic covered. As an example, an early childhood specialist presented a wide variety of home built educational toys and games and demonstrated their appropriate use with young children. Each parent selected from among the toys and games presented and constructed their own in follow-up sessions at the center. The parents were also trained to serve as classroom assistants and served on a rotation basis in that capacity. Field trips were scheduled to places of interest that could serve as resources for the parents and their families including the city library, county zoo, local parks and community activities.

Lunch was provided for parents following each meeting to increase their opportunity for social interaction with the staff and other parents. In addition to the regularly scheduled parent meetings held at the center, home visits were made by the classroom teacher, parent coordinator-social worker and school nurse to help further develop a close, mutually supportive relationship between the school and the parents.

Selection Criteria

The following criteria were applied in selecting children for the Three-Year-Old Program: (1) residence in a Title I target area, an area of high concentration of low-income families; (2) three years of age by September 1, 1971; (3) educational deprivation at developmental level; (4) a family status indicative of need; (5) parental commitment to participate in a supportive program of related activities on a weekly basis; and (6) a total program enrollment consistent with the racial distribution of the district's low-income population.

Due to the small number of program slots available during the pilot year of the program the eligible children were enrolled on a first-come, first-served basis consistent with the racial distribution of the district's low-income population. The selection criteria for Head Start and Title I preschool programs for four-year-old children are similar in nature to those outlined above. Therefore, the children attending the program were all eligible the following year for an additional preschool experience.

Results of Related Studies

The first Head Start program was begun in the summer of 1965. The initial program served approximately 550,000 children from over 2,000 different communities and was administered through the Office of Economic Opportunity. Eligibility for participation in Head Start was basically

determined by family income. The children who attended Head Start were largely from families with an annual income of less than three thousand dollars with provision made for adjustments through a sliding scale for additional dependent children.

It is not surprising that this massive effort on the part of the Federal government to provide preschool intervention programs for low-income children stimulated the development of many experimental and innovative programs and an associated production of a large volume of research and literature in the field of preschool education for low-income children. Following the advent of the 1965 program many studies were conducted to determine the effects of a summer preschool experience on the later school performance of participating children. With the provision for funding of full-year Head Start programs research emphasis shifted to determining the effects of relatively longer program exposure as compared to the summer preschool experience.

Cort (1967) reported on one of the first major studies specifically addressed to the relative effects of different amounts of exposure to a Head Start program. The study, conducted by Planning Research Corporation, was intended to evaluate the effectiveness of the 1965-1966 full-year Head Start programs. This study was undertaken to test the hypothesis that the length of a Head Start program affects the level of performance, achievement and behavior of Head Start children. The principal independent variable of this

study was the length of the individual programs; the dependent variables were the performances or ratings of the children as measured by scores on certain tests or rating scales.

Three main levels or durations of program were considered in the study. These levels were short-term, medium-term, and long term. Programs classified as short-term were those of 15 weeks duration or less, medium-term programs were those of 17 to 23 weeks in duration, and long-term programs were those of 25 weeks or more in duration. In all, 964 children ranging from 3 to 6 years of age, from 72 different Child Development Centers were tested on five tests or rating scales.

The primary instruments used in the testing program were the Peabody Picture Vocabulary Test, a test of general verbal ability; the revised Preschool Inventory, a measure of school readiness; the Operation Head Start Behavioral Inventory, a measure of behavior-adjustment aspects of children; the Vineland Social Maturity Scale, a measure of the children's social development, maturity, and independence; and the Draw-A-Man test, a test of intelligence. The battery of tests were administered near the conclusion of each program. The test scores were analyzed by a one-way analysis of variance.

The findings from the analysis of the data indicated a lack of evidence of a relationship between length of program and performance. The main conclusion drawn from the Planning Research Corporation study was: There was no statistically reliable evidence of a change in performance or rating of

children, in the major samples and on the instruments used, which could be related to the length of the program. Neither a systematic gain with time or loss with time was found. The study further concluded that of the factors which could have acted to obscure the observation and measurement of a treatment effect, the lack of direct evidence that the major experimental samples were comparable at the start of the programs was by far the most serious.

Cort (1967) reported that the results of the Planning Research Corporation study did not mean that the programs accomplished nothing, or that many possible short and long-term benefits to children, parents, communities and staff did not occur. The challenge, as indicated by the study, is to discover yet more precise and comprehensive means of depicting the true nature of the total array of benefits offered by preschool programs such as Head Start.

The Westinghouse Learning Corporation and Ohio University (1969) conducted another comprehensive study of Head Start for the Office of Economic Opportunity from June 1968, through May 1969. The study was directed toward the basic question: To what extent are the children now in the first, second, or third grade who attended Head Start programs different in their intellectual and social-personal development from comparable children who did not attend? The study was also directed toward determining the relative effects of summer as opposed to full-year programs.

The study utilized a sample of children from 104 Head Start centers who had gone on to first, second and third grade in local schools and a matched sample of control children from the same grades and schools who had not attended Head Start. Formal tests were administered and separate data analyses were conducted for those children who attended summer and full-year programs.

Head Start children who attended full-year programs scored significantly higher than control children on the Metropolitan Readiness Tests in the first grade. Head Start children who attended summer programs did not score significantly higher than controls on this instrument. No significant differences were found between Head Start children, summer or full-year participants, and controls on the Illinois Test of Psycholinguistic Abilities at the first, second or third grade level. No significant differences were found between Head Start children, summer or full-year participants, and controls on the Stanford Achievement Tests at the second grade level.

On the instruments used to assess affective development, the Children's Self-Concept Index, the Classroom Behavior Inventory, and the Children's Attitudinal Range Indicator, the Head Start children from both summer and full-year programs failed to score significantly higher than the control children.

It should be noted, however, that when national samples were broken down into geographical regions, city size groups,

and racial-ethnic composition categories some significant differences were found, mostly on subtests of cognitive measures, favoring full-year Head Start participants. In view of these findings, the following major conclusions were made in the Westinghouse report:

1. Summer programs appear to be ineffective in producing any gains in cognitive and affective development that persist into the elementary grades.

2. Full-year programs appear to be ineffective in regard to measures of affective development used in the study, but appear to be somewhat effective in producing gains in cognitive development that could be detected in grades one, two and three. Programs appeared to be of greater effectiveness for certain sub-groups of centers, most notably in all-Negro centers in southeastern United States and in scattered programs in the central cities.

3. Head Start children, whether from summer or full-year programs, still appear to be in a disadvantaged position with respect to national norms for the standardized tests of language development and scholastic achievement.

4. Parents of Head Start enrollees voiced a strong approval of the program and its influence on their children. They reported substantial participation in the activities of the center (pp. 7-8).

In summary, the report indicated that Head Start children were not appreciably different from their peers in the elementary grades who did not attend Head Start in most aspects of cognitive and affective development, with the exception of the slightly significant superiority of full-year Head Start children on some measures of cognitive development. With respect to duration of preschool programming the Westinghouse study (1969) recommended that summer programs be phased out as early as possible and converted to

full-year or extended year programs, and that every effort should be made to make full-year programs more effective.

Klaus and Gray (1969) experimentally tested a preschool intervention program known as the Early Training Project. The project was generally designed to improve the educability of young educationally deprived children. The major objectives of the research were: (1) to determine whether it was possible to offset the progressive retardation usually observed in educationally deprived children as they go through the elementary school years; (2) to determine the effects of relatively longer periods of preschool intervention; (3) to assess the horizontal and vertical diffusion effects from the project; and (4) to determine whether the effects of preschool intervention wear off over time.

The program for the Early Training Project was based on available research on social class, cognitive development and motivation. The project used a high staff ratio of adults to children and the staff was equally balanced as to race and sex. The instructional program was particularly concerned with attitudes related to achievement, self-esteem, language, enrichment experiences and aptitudes related to success in school. The project also gave special emphasis to parental involvement. A home visitor met with the family on a weekly basis, both summer and winter, to involve the mother and child in activities similar to those of the school experience

The research project involved four groups of preschool children. Three of the groups were randomized from a group

of 65 three-year-old children in a small southern city. One group participated in three ten-week summer sessions and another group participated in two ten-week summer sessions prior to entering first grade. Two comparable control groups, one local and one in a distant city, were also established.

With respect to academic attainment as measured by the Metropolitan Readiness Tests, the Gates Reading Readiness Test, the Metropolitan Achievement Tests and the Stanford Achievement Tests the results consistently favored the pre-school participants. The findings from the administration of the revised Children's Self-Concept Scale led the authors to conclude that there was no support for the possibility that the intervention program was damaging to the self-concept of the experimental children.

The authors concluded from the results of the Early Training Project that whether it was possible to offset progressive retardation by an extended and carefully designed preschool program was dependent upon the ability of the public schools, the home and the community to cooperatively capitalize on the gains achieved. Gains made in the Early Training Project persisted, to an extent, at least through the second grade. Findings with respect to horizontal and vertical diffusion led the authors to conclude that intervention programs can have long lasting effects that go beyond the immediate children involved. Because of differences in the two experimental groups the authors were unable to draw

a firm conclusion about the relative effectiveness of the two different lengths of preschool treatment employed.

Turner and DeFord (1970) conducted a follow-up study of the Early Childhood Education Project, a preschool program for low-income children, to determine the effects of preschool experiences on selected aspects of pupil performance at the beginning and completion of first grade. The study utilized three groups of pupils from first grade classes in schools which had the Early Childhood Education Project. One group (A) of pupils entered kindergarten with no prior organized preschool experiences. A second group (B) entered kindergarten after participating in the Early Childhood Education Project for a regular school year. A third group (C) entered kindergarten after a regular school year in the Early Childhood Education Project plus a summer school experience.

The three groups were compared in first grade on the following aspects of performance and behavior: learning readiness as measured by the Metropolitan Readiness Tests, academic achievement as measured by the Metropolitan Achievement Tests, and several behavioral characteristics as measured by a locally developed rating scale.

In terms of readiness for learning, Group C attained the highest total test score followed by Groups B and A. The national percentile ranks corresponding to the median scores for Groups A, B and C were 44, 57 and 65. It was also found that the differences in total readiness scores

between Groups A and C were significant at the .05 level. The results of the academic achievement tests also favored the group with the longest duration of organized preschool experiences. In several instances on the achievement subtests the score differences between Groups A and C were significant at the .05 level. The teachers rated the children with the longer preschool experience as clearly superior in three out of four behavioral areas, with no significant differences between the other groups.

Turner and DeFord (1970) specifically noted that the results of the study conflicted with the results of the 1969 national Head Start evaluation and attributed the differences in results to the continuity between the Early Childhood Education program and the regular public school program for the children included in their study.

Bittner (1969) reported on a study of the East St. Louis Preschool Readiness Centers to determine: (1) the effect of preschool experience on the personal and social adjustment, school readiness and achievement of deprived children; (2) to determine what combination of age at intervention and treatment intensity was most effective; and (3) to assess the effects of parent involvement on children's academic performance. The Preschool Readiness Centers Program is a year-round program which serves approximately 255 children ranging in age from 2½ to 6 years. Program goals include the development of effective cognitive skills of children of the lower socio-economic class, the broadening

of parents' understanding of the needs of preschool children and the strengthening of parents' motivation and aspirations for the education of their children.

Phase I of the study reported the results for four groups of children who entered first grade in the fall of 1967. Group I consisted of children who had participated in the year-round Preschool Readiness Centers Program. Group II was comprised of children from center areas who had attended a summer Head Start Program. Two control groups consisting of children without organized preschool experience were used in the study. One control group consisted of comparable children from low-income families and the other control group consisted of children from middle-income families.

The results of the study indicated that on the Peabody Picture Vocabulary Test administered at the first grade level Group I scored significantly higher than other experimental and control groups. At the second grade level, however, the differences between Group I and the other groups were not significant with the exception of the low-income group with no preschool experience. The middle-income children scored higher than the preschool children upon entering second grade, but not significantly higher. All groups showed progress on the Peabody Picture Vocabulary Test during their first grade year. On the California Test of Personality the mean score for Group I on both personal and social adjustment was higher than that of the other

groups, but none of the differences were significant. The preschool children included in Group I scored significantly higher than the other experimental and control groups on the Metropolitan Readiness Tests administered at the beginning of first grade, but on the Metropolitan Achievement Tests administered at the end of first grade the differences in achievement scores were not significant.

To determine what combination of age at intervention and treatment intensity was most effective, the program varied classes by age groups and schedule within each center. The lack of random assignment to different schedules tended to obscure an effective evaluation of this aspect of the program. A comparison of test scores of children who entered the Preschool Readiness Centers Program between the ages of three and five, and those who entered after age five showed no significant differences on any of the instruments used in the study. There were no appreciable differences in test scores related to age of entry into the Preschool Readiness Centers Program or related to the number of days of school attended.

With respect to the effect of parent involvement on the children's academic performance Bittner presented evidence to suggest that it is the parent, and not the participation, that has an effect on the child's achievement. As measured by the children's scores on the instruments used to assess academic performance in the study the children of parents who did not participate in the Preschool Readiness Centers

Program scored much lower than even the children whose parents' program participation was poor. Parent participation had no measurable effect, however, on the personal or social adjustment of the child.

Van de Riet (1972) evaluated a sequential Learning to Learn Program designed for low-income four and five-year-old children. The purpose of the study was: (1) to compare the development of children who received a two year preschool program with the development of children who received a one year preschool program; and (2) to compare the development of experimental groups with that of control groups. It was hoped that the study could help determine whether the commonly found loss of developmental gains after leaving preschool programs could be avoided by providing children with a longer exposure to a special early childhood education program.

The Learning to Learn Program was designed and organized to be appropriate for the stage of cognitive development of the child, to make maximal use of the child's abilities, to use a planned sequence of environmental stimulation based on the stages of cognitive development, to emphasize the process of learning, and to guide and structure learning experiences toward self-support and coping. The goals of the program included the development of competence in manipulating language and the development of strategies for gathering information, problem solving and decision making.

Two experimental and two control groups drawn from the same low-income neighborhood were used in the study. One of the experimental groups received a two year preschool program and the other experimental group received a one year preschool program. The two control groups were matched with the experimental groups on intelligence, language ability, perceptual-motor ability and socio-economic status. Both experimental groups remained in the program through the first grade. Thus, the experimental group that received a two year preschool program remained in the program for three consecutive years while the experimental group that received a one year preschool program remained in the program for two consecutive years. Control groups attended Office of Economic Opportunity sponsored day care nursery schools, Title I kindergartens, and public school primary grades.

The results reported from the study were based on the Stanford Binet Intelligence Test. One purpose of the study was to compare the developmental gains of the experimental and control groups. With respect to this purpose the data indicated that both of the experimental groups of children made significantly greater intellectual gains over the two or three year period that they participated in the program than their respective control groups of children.

A second purpose of the study was to determine and evaluate the effects of exposing groups of low-income children to different lengths of a specialized sequential educational program. The comparison of the intellectual

gains of the two experimental groups over time revealed primarily different developmental patterns. The intellectual gain for the children in the experimental group with a two year preschool experience occurred during the first year of the program when they gained nearly 20 IQ points. During the second and third year of the program this group maintained its previously made gains in intellectual functioning. In contrast, the experimental group with only one year of preschool experience made relatively equal IQ gains during each year of the program totaling approximately 16 IQ points. The difference between the overall intellectual gains made by the two experimental groups was not significant. At the conclusion of the program, however, both experimental groups of children were functioning at the upper limits of the average range of intelligence while the control children were functioning at the lower limits of the same range.

The author concluded that the program had enhanced the intellectual development of the participating children and that the more traditional educational programs of the control group had not achieved similar results.

One aspect of a study conducted by Swayze (1966) was directed toward determining whether there was a relationship between growth in an ungraded primary school and the number of years of preschool education experienced by children. Two groups of kindergarten children were used in the study. One of the groups of children had one year of preschool experience as four-year-olds while kindergarten was the

first formal school experience for the second group of children. Instrumentation for the investigation included the Peabody Picture Vocabulary Test, the Evaluation Scale for Four and Five-Year-Old Children, and the Metropolitan Reading Achievement Tests.

Results of the study indicated that the group of children with preschool experience tended to score higher in self-concept, achievement, and social and intellectual development than the group of children with no preschool experience. These differences were not significant when treated statistically, however, In conclusion, Swayze emphasized the element of flexibility in primary programs to increase responsiveness to children who have had different kinds and amounts of preschool and kindergarten experiences.

Summary

In summary, some contrast may be noted in this review of literature between those studies which included nationwide samples of children and those studies which were conducted on a local scale. The studies conducted by the Planning Research Corporation and by the Westinghouse Learning Corporation both included nationwide samples of children. Neither of these studies reported any statistically reliable evidence of a change in cognitive or affective performance which could be related to the length of a preschool program, with the exception of the slightly significant superiority

of full-year preschool participants when compared with summer school participants on measures of school readiness.

The studies reviewed which were conducted on a local scale generally found mean differences on measures of both cognitive and affective development which favored the children with the earliest and most extensive preschool experience. Reported significant differences were somewhat more rare, however, and were generally limited to measures of school readiness, with isolated examples on measures of intellectual ability, achievement, verbal ability, and measures of certain behavioral characteristics.

The differences noted between the nationwide and local studies could be attributed to several factors. First, the local studies reviewed had more direct evidence that their experimental samples were comparable at the start of the program. Second, they also had more specific information about the goals and objectives of their individual programs. Third, as Turner and DeFord (1970) noted, they had more control over the continuity between the preschool program and the regular public school program for the children included in their study.

No research report was found dealing directly with school readiness, self-concept and school attendance and which compared children with two years of preschool experience which was initiated at age three, with children who had one year of preschool experience initiated at age four

and with children who had no formal preschool experience prior to entering kindergarten.

Chapter II presented a brief description of the Three-Year-Old Program and the research reviewed pertaining to areas related to this study. It was intended that the reader would be able to develop a perspective of the Three-Year-Old Program and an indication of the need leading to this study in preschool education, from the material presented. Chapter III will present the design formulated for conducting the study.

CHAPTER III

DESIGN OF THE STUDY

Introduction

This investigation was designed to compare the school readiness, self-concept and attendance of three groups of kindergarten children. Chapter III will provide the locus for the study, a description of the pupils providing data for the investigation, the instruments used to collect the data, the method of collecting the data and a discussion of the statistical treatment to be used in the data analysis.

The Locus of the Study

The local school district is situated in a metropolitan area located in south-central Kansas. In terms of industrial development, the area is best known as one of the major aircraft production centers of the world. Other important segments of the economy include oil exploration and refinery operations. The city is surrounded by a highly productive agricultural area with wheat and cattle production being the leading farm products.

The population growth of the city has been moderate over the past decade. The population increased by 8.6 percent during the ten year period between 1960 and 1970,

to 276,554. As is characteristic of many metropolitan areas in the United States today, there is a considerable diversity in the economic, cultural, and educational levels of the population; both areas of wealth and pockets of poverty may be found.

The local school district includes 109 public schools. Of the 109 schools, 79 are elementary schools, serving kindergarten through 6th grade; 16 are junior high schools, serving 7th through 9th grade; 6 are senior high schools, serving 10th through 12th grade; and 8 are special service schools.

During the 1973-1974 school year there were 55,596 children enrolled in the public schools. Enrollment declined by about 13,500 pupils during the past decade. The school population is served by approximately 3,000 certificated personnel. The racial composition of the school population is 79 percent Caucasion, 17 percent Black, and 4 percent Oriental, Mexican American, and American Indian. About 8,000 pupils in the local school district are estimated to be from low-income families.

Since 1971, the local school district has been involved in an integration plan which includes large scale bussing. Under this plan no school may have more than 25 percent, or fewer than 8 percent, of its pupils from a minority population. Bussing for integration purposes is not required where local neighborhood housing patterns permit school enrollments to fall within the established limits.

The Population

The pupils participating in this investigation included 54 elementary school children in the local school district. The pupils were in kindergarten at the time this study was conducted. The pupils included in the investigation were divided into three groups. The three groups were divided as follows:

Group I. The first group consisted of pupils who had two years of preschool experience.

Group II. The second group consisted of pupils with only one year of preschool experience.

Group III. The third group consisted of pupils with no formal preschool experience.

The subjects included in this investigation were all eligible, according to local and federal guidelines, to participate in preschool programs for low-income children sponsored by the local school district. The pupils included in Group I attended the Three-Year-Old Program during the 1971-1972 school year. During the 1972-1973 school year the pupils included in Group I and Group II attended Head Start or the Title I preschool program for four-year-old children, along with approximately 350 other participants. The pupils included in Group III had no formal public or private preschool experience. The demographic data necessary to select the names of children eligible to be included in Group III were obtained from local kindergarten class listings. These class listings included children's names, addresses, date of

birth, sex, race, grade level and low-income data along with other information. This information was supplemented by the use of waiting lists for the above programs, interviews with school principals and the pupils' permanent records. The pupils included in the three groups entered kindergarten in the fall of 1973.

Thirty-two children were initially enrolled in the Three-Year-Old Program during its pilot year in 1971-1972. By the time this study was conducted, during the spring of the 1973-1974 school year, 12 of these pupils had moved from the district. Two other pupils were excluded from the study because they were dropped from the preschool roll before the end of the school year. This study utilized the remaining 18 children as the participants in Group I.

The pupils included in the sample for Group II and Group III were selected in the following described manner. Pupils eligible for inclusion in Group II or Group III, either because of program participation or program eligibility, respectively, were matched on race, sex, grade level and school attended, within the appropriate group. The sample for these groups was then randomly drawn according to the characteristics of Group I.

As shown in Table I, each group included 8 males and 10 females. The racial composition of each group included 6 Caucasion, 10 Black and 2 Mexican American children. At the time of testing the mean chronological age, expressed in months, for Group I was 72.55, 71.94 for Group II and 72.50 for the children in Group III.

TABLE I

SEX, RACE AND MEAN CHRONOLOGICAL AGE DISTRIBUTION OF THE CHILDREN INCLUDED IN THE THREE GROUPS

	Group I	Group II	Group III
Sex			
Males	8	8	8
Females	10	10	10
Race			
Caucasian	6	6	6
Black	10	10	10
Mexican American	2	2	2
Age*	72.55	71.94	72.50

*Mean chronological age in months.

The subjects were enrolled in fourteen different elementary schools and were under the supervision of twenty different teachers at the time this study was conducted. Basically, each teacher represented, assumed major instructional responsibility for one or two pupils from each of the three groups.

The Instruments Used in the Study

The data collected on the subjects participating in this investigation included a measure of school readiness, a measure of self-concept, and the subjects' school attendance record during the 1973-1974 kindergarten year. The Metropolitan Readiness Tests and the Student Self-Concept

Rating Scale were the instruments used to obtain, respectively, an assessment of school readiness and self-concept. The school attendance record was obtained from the subjects' permanent records.

Metropolitan Readiness Tests Form A (1964)

The Metropolitan Readiness Tests (MRT) were constructed to measure the extent to which school beginners have developed in the several skills and abilities that contribute to readiness for first-grade instruction. The tests were designed to be administered at the end of the kindergarten year or the beginning of the first-grade year. The instrument includes six tests which collectively yield a total readiness score for each child. The six tests which make up the MRT are:

> Test 1. Word Meaning, a 16-item picture vocabulary test. The pupil selects from three pictures the one that illustrates the word the examiner names.
>
> Test 2. Listening, a 16-item test of ability to comprehend phrases and sentences instead of individual words. The pupil selects from three pictures the one which portrays a situation or event the examiner describes briefly.
>
> Test 3. Matching, a 14-item test of visual perception involving the recognition of similarities. The pupil marks the one of three pictures which matches a given picture.
>
> Test 4. Alphabet, a 16-item test of ability to recognize lower-case letters of the alphabet. The pupil chooses a named letter from among four alternatives.

Test 5. Numbers, a 26-item test of number knowledge.

Test 6. Copying, a 14-item test which measures a combination of visual perception and motor control (Hildreth, McGauvran and Griffiths, 1969, p. 2).

The Metropolitan Readiness Tests include a seventh, optional, Draw-a-Man test which provides an index of general intellectual maturity. This optional subtest was omitted from the instrumentation for this investigation.

The normative population for the MRT included approximately 12,000 pupils situated in 299 different schools. All geographic regions of the United States were represented by the schools selected. The socio-economic characteristics of the communities involved in the standardization process were considered in establishing the national norms.

Reliability data for the MRT were obtained from seven school systems across the United States. Both split-half and alternate-forms techniques were used in estimating the instrument's reliability. Total score reliability estimates computed by the split-half method and adjusted through the application of the Spearman-Brown formula ranged from .90 to .95. Alternate-forms reliability was determined by administering Form A and Form B with a one week interval between test administrations. The total score reliability estimate obtained in this manner was reported to be .91. The reliability of the six tests included in the MRT was also reported as determined by both split-half and alternate-forms techniques. Reliability estimates for the subtests

were considerably lower than the total score estimates although the values were within reasonable limits.

The MRT was also investigated in terms of its content, construct and predictive validity. The content validity of the instrument was established through research into earlier editions of readiness tests, the findings in the literature over the past ten years and the identification of characteristics that contribute to success in first-grade work. The authors presented sufficient evidence to establish the validity of the information used to formulate questions. Construct validity coefficients were established through studies in which a number of readiness and mental ability tests were correlated with the MRT. For one such study, the correlation coefficient between the total scores of the MRT and the Murphy-Durrell Reading Readiness Analysis was reported to be .80. The predictive validity of the instrument was established by determining how scores on the MRT related to scores on some future criterion measure. In one study, the Stanford-Achievement Test, Form X was used as the criterion measure. The correlations between the instrument's six subtests ranged between .57 and .67, with a correlation between total scores estimated to be approximately .65 (Hildreth, McGauvran and Griffiths, 1969).

Student Self-Concept Rating Scale

The Student Self-Concept Rating Scale (SSCRS) is an observation rating scale designed for measuring the self-concept of preschool through second grade children. The

SSCRS was developed in the context of Title I research in the Richmond, Virginia, Public Schools by Harry N. Phillips and Dennis R. Marriott. The fourteen item instrument yields a measure of global self-concept as well as four subscale scores. The four subscales include The Peer Group, The Teacher, Classroom Performance and Social Activities. (The reader may note the subscale content of the SSCRS in Appendix A.) Total self-concept scores derived from the instrument range from 14 through 84. Relatively higher scores are indicative of a more adequate self-concept.

In developing the SSCRS the authors defined the classroom as the ecological unit most appropriate to an investigation of student self-concept. As an observation scale specifically designed for classroom use by classroom teachers, the orientation of the teacher to the instrument as well as her perceptions of each child being rated is important. Especially in those instances in which the teacher has had ample, prior opportunity to observe the relevant classroom behavior of the children being rated, the SSCRS requires a relatively short administration time.

The Student Self-Concept Rating Scale possesses high reliability and validity as well as empirically accurate subscales. Reliability was estimated by the test-retest method and adjusted through the application of the Spearman-Brown formula. Validity estimates were derived from correlations between scores on the SSCRS and scores on the Coopersmith Behavior Rating Form. The reliability and

validity coefficients for the instrument were computed to be .96 and .70, respectively. In addition, item content was examined by item analysis and an item correlation matrix.

The SSCRS, being an observation scale, avoids the bias inherent in self report instruments especially where young children constitute the source of data. In addition to its avoidance of self report bias, and because the instrument possesses high reliability and validity coefficients and empirically accurate subscales, the Student Self-Concept Rating Scale is a useful educational tool for assessing the self-concept of preschool through second grade students (Phillips and Marriott, 1973).

Collection of the Data

Permission to conduct this research project was obtained from the Research Council of the local school district on February 21, 1974. (The Request for Research Approval and Agreements form is included in Appendix B, and the letter of Consent is included in Appendix C.) Data collection procedures were initiated shortly thereafter.

The Metropolitan Readiness Tests, Form A, were administered to the pupils participating in this investigation during a two week period between February 25, and March 8, 1974. This testing program was completed under the direction of the Pupil Evaluation and Guidance Coordinator for the local school district. The tests were administered by the regular elementary counselors assigned to the schools

included in this study. Due to the age of the subjects, group size for each testing session was limited to three pupils. The Metropolitan Readiness Tests were scored by an independent evaluator and the scores transferred by the investigator to fortran coding forms for machine processing and analysis.

The Student Self-Concept Rating Scales were completed by the regular classroom teachers to which the participating pupils were assigned during their 1973-1974 kindergarten school year. These data were collected during a two week period between March 11, and March 22, 1974. Instructions for completing these instruments were furnished by the investigator from materials provided by the authors of the instrument. The Student Self-Concept Rating Scales were scored by an independent evaluator and the scores transferred by the writer to fortran coding forms for machine processing and analysis.

Attendance data for the pupils participating in this investigation were collected by the investigator from the pupils' permanent records. Initial plans were to collect attendance data for the entire 1973-1974 school year. During the third nine weeks period, however, a flu epidemic reduced the attendance at some participating schools by as much as 30 percent. To eliminate the possibility of bias from this factor the collection of attendance data was discontinued at the conclusion of the first semester, on January 18, 1974. This change in the planned procedure

reduced the possible attendance period from a maximum of 180 days to 91 days. The attendance data were recorded as the number of days present out of the total possible attendance period. Attendance data were also transferred to fortran coding forms for machine processing and analysis.

Statistical Analysis

The three main hypotheses of the investigation were tested at the .05 level of significance using a one-way analysis of variance for three groups. The six supplemental hypotheses were tested at the .05 level of significance using a one-way analysis of variance for a two group design.

Intended only as ancillary information to the main body of this investigation, two additional statistical analyses were performed. First, the data obtained from the six tests included in the MRT and the four subscales of the SSCRS were analyzed at the .05 level of significance using a one-way analysis of variance technique for three groups. Second, a correlation matrix was constructed to indicate the relationships existing between the two instruments' total scores, subscales and pupil attendance.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

The data collected for this investigation were for the primary purpose of determining the effects of preschool experience, initiated at different age levels and continued for different amounts of time, on the school readiness, self-concept and school attendance of three groups of kindergarten children. This chapter will present the data analysis.

Presentation of the Analysis

The format for the presentation of the analysis of the data will include a restatement of each hypothesis formulated for the study, a paragraph indicating the statistical treatment employed to analyze the data and the decision reached with respect to the hypothesis, and a presentation of the analytical results in tabular form. The data analysis in terms of the hypotheses related to readiness and self-concept utilized only the total test scores from the Metropolitan Readiness Tests and the Student Self-Concept Rating Scale. The presentation of the data analysis with respect to the three main hypotheses will be presented first, followed by the six supplementary hypotheses.

Main Hypotheses

1. There is no significant difference between the readiness scores of those students involved in three different levels of preschool training.

A one-way analysis of variance was applied to the readiness scores. As shown in Table II, the difference between the three groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for each group are reported in Table III.

TABLE II

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL READINESS SCORES

Source	SS	DF	MS	F
Between Groups	408.9988	2	204.4994	1.3506*
Within Groups	7722.3242	51	151.4181	
TOTAL	8131.3203	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE III

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	53.94	14.00
Group II	18	48.77	11.53
Group III	18	47.61	11.18

2. There is no significant difference between the self-concept scores of those students involved in three different levels of preschool training.

A one-way analysis of variance was applied to the self-concept scores. As shown in Table IV, the difference between the three groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for each group are reported in Table V.

TABLE IV

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL SELF-CONCEPT SCORES

Source	SS	DF	MS	F
Between Groups	192.1117	2	96.0558	1.1738*
Within Groups	4173.3789	51	81.8309	
TOTAL	4365.4883	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE V

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	61.88	9.77
Group II	18	61.77	9.96
Group III	18	57.83	7.12

3. There is no significant difference between the amount of school attendance of those students involved in three different levels of preschool training.

A one-way analysis of variance was applied to the attendance data. As shown in Table VI, the difference between the three groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for each group are reported in Table VII.

TABLE VI

A SUMMARY OF ANALYSIS OF VARIANCE FOR SCHOOL ATTENDANCE

Source	SS	DF	MS	F
Between Groups	217.8150	2	108.9075	3.0124*
Within Groups	1843.8313	51	36.1535	
TOTAL	2061.6462	53		

*Critical $F_{.05} = 3.186$; $p < .10$

TABLE VII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	84.27	6.39
Group II	18	83.11	5.03
Group III	18	79.55	6.49

Supplemental Hypotheses

1. The readiness scores of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training.

A one-way analysis of variance was applied to the readiness scores. As shown in Table VIII, the difference between the two groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for both groups are reported in Table IX.

TABLE VIII

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL READINESS SCORES

Source	SS	DF	MS	F
Between Groups	168.7500	1	168.7500	1.1020*
Within Groups	7962.5391	52	153.1257	
TOTAL	8131.2891	53		

*Critical $F_{.05} = 4.032$; $p > .25$

TABLE IX

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Groups I and II	36	51.36	12.91
Group III	18	47.61	11.18

2. The readiness scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

A one-way analysis of variance was applied to the readiness scores. As shown in Table X, the difference between the two groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for both groups are reported in Table XI.

TABLE X

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL READINESS SCORES

Source	SS	DF	MS	F
Between Groups	240.2489	1	240.2489	1.4597*
Within Groups	5596.0508	34	164.5897	
TOTAL	5836.2969	35		

*Critical $F_{.05} = 4.144$; $p < .25$

TABLE XI

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	53.94	14.00
Group II	18	48.77	11.53

3. The self-concept scores of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training.

A one-way analysis of variance was applied to the self-concept scores. As shown in Table XII, the difference between the two groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for both groups are reported in Table XIII.

TABLE XII

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL SELF-CONCEPT SCORES

Source	SS	DF	MS	F
Between Groups	192.0008	1	192.0008	2.3923*
Within Groups	4173.4922	52	80.2595	
TOTAL	4365.4922	53		

*Critical $F_{.05} = 4.032$; $p < .25$

TABLE XIII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Groups I and II	36	61.83	9.72
Group III	18	57.83	7.12

4. The self-concept scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

A one-way analysis of variance was applied to the self-concept scores. As shown in Table XIV, the difference between the two groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for both groups are reported in Table XV.

TABLE XIV

A SUMMARY OF ANALYSIS OF VARIANCE FOR TOTAL SELF-CONCEPT SCORES

Source	SS	DF	MS	F
Between Groups	0.1111	1	0.1111	0.0011*
Within Groups	3310.8843	34	97.3789	
TOTAL	3310.9954	35		

*Crticial $F_{.05} = 4.144$; $p > .25$

TABLE XV

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	61.88	9.77
Group II	18	61.77	9.96

5. The amount of school attendance of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training.

A one-way analysis of variance was applied to the attendance data. As shown in Table XVI, the difference between the two groups was significant; therefore, the null hypothesis was rejected. The mean and standard deviation for both groups are reported in Table XVII.

TABLE XVI

A SUMMARY OF ANALYSIS OF VARIANCE FOR SCHOOL ATTENDANCE

Source	SS	DF	MS	F
Between Groups	205.5652	1	205.5652	5.7591*
Within Groups	1856.0789	52	35.6938	
TOTAL	2061.6438	53		

*Critical $F_{.05} = 4.032$; $p < .05$

TABLE XVII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Groups I and II	36	83.69	5.70
Group III	18	79.55	6.49

6. The amount of school attendance of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training.

A one-way analysis of variance was applied to the attendance data. As shown in Table XVIII, the difference between the two groups was not significant; therefore, the null hypothesis was accepted. The mean and standard deviation for both groups are reported in Table XIX.

TABLE XVIII

A SUMMARY OF ANALYSIS OF VARIANCE FOR SCHOOL ATTENDANCE

Source	SS	DF	MS	F
Between Groups	12.2504	1	12.2504	0.3695*
Within Groups	1127.3872	34	33.1584	
TOTAL	1139.6375	35		

*Critical $F_{.05} = 4.144$; $p > .25$

TABLE XIX

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	84.27	6.39
Group II	18	83.11	5.03

Supplementary Information

As ancillary data intended only for the interested reader, the data obtained from the six tests included in the MRT and the four subscales of the SSCRS were analyzed using a one-way analysis of variance technique for three groups. This information is included in Tables XX through XXXI, Appendix D, and in Tables XXXII through XXXIX, Appendix E, for the MRT and the SSCRS, respectively. A correlation matrix indicating the relationships existing between the instruments' total scores, subscales and pupil attendance is also included, in Table XL, Appendix F.

Interpretation of Median Readiness Scores

The median readiness score for each of the three groups included in this investigation was compared to the national norms on the Metropolitan Readiness Tests. The national norms furnished for the MRT are based on the performance of pupils tested in the standardization program during the second or third week of the first grade. These norms may be used, however, in interpreting the results of tests administered at the end of kindergarten by adding five points to the median group score before making a comparison to the national norm group (Hildreth, McGauvran and Griffiths, 1969, p. 12). As shown in Table XLI, Appendix G, the adjusted median score for Group I was 61.5, with a corresponding percentile rank of 64; the adjusted median score

for Group II was 52.5, with a corresponding percentile rank of 45; the adjusted median score for Group III was 51.5, with a corresponding percentile rank of 43.

Summary

The three main hypotheses, dealing with readiness, self-concept and attendance, which proposed no significant difference between the three groups, were accepted; there was no significant difference. The fifth supplemental hypothesis, dealing with attendance, which proposed no significant difference between the combined groups of pupils who received preschool training and the group that received no preschool training was rejected; there was a significant difference. The remaining five supplemental hypotheses, dealing with readiness, self-concept and attendance, which proposed no significant difference between two groups were accepted; there was no significant difference.

The median score adjusted for kindergarten testing on the Metropolitan Readiness Tests, for Group I, was above the median score indicated by the national norms; while the adjusted median scores for Group II and Group III were still below the median score indicated by the national norms.

CHAPTER V

THE SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary

The local school district applied for and received Federal funds to conduct a small, pilot preschool program for Title I eligible, three-year-old children during the 1971-1972 school year. This program experience was in addition to the preschool training these children, along with many other children, received as four-year-olds in Head Start or Title I preschool programs. Thirty-two children from the high concentration of low-income families in the local school district, eligible for kindergarten in the fall of 1973, participated in the initial program. It was with this group of children that this investigation was primarily concerned.

The purpose of this study was to determine the effects of preschool intervention, initiated at different age levels and continued for different lengths of time, on the school readiness, self-concept and attendance of three groups of kindergarten children.

The subjects providing data for the investigation were fifty-four children attending kindergarten in the Wichita

Public School System, Wichita, Kansas. For the purposes of the study, the fifty-four children were divided into three groups of eighteen children each, on the basis of their preschool experience. The first group of children had two years of preschool experience as both three and four-year-old program participants. The second group of children had one year of preschool experience as four-year-old program participants only. The third group of children had no formal preschool experience prior to entering kindergarten at age five. The children providing data for the investigation were all eligible according to local and Federal guidelines under Title I, P. L. 89-10, or Head Start, P. L. 88-452, for the preschool programs, operated by the local school district, that were used to provide the training experiences investigated by this study.

The data collected on the subjects participating in the investigation included a measure of school readiness, a measure of self-concept and the subjects' school attendance record during their kindergarten year. The Metropolitan Readiness Tests and the Student Self-Concept Rating Scale were the instruments used to obtain, respectively, an assessment of school readiness and self-concept. The school attendance data were obtained from the pupils' permanent school record. The data were collected during a one month period from February 25, 1974 to March 22, 1974. The subjects were in the seventh month of their kindergarten year at the time the study was conducted.

The major objective of the investigation was to test the three main hypotheses and six supplemental hypotheses that were developed for the study. The three main hypotheses formulated for the investigation were tested at the .05 level of significance using a one-way analysis of variance for three groups. The six supplemental hypotheses formulated for the investigation were tested at the .05 level of significance using a one-way analysis of variance technique for two groups.

Findings

The statistical analysis of the data resulted in the following findings with respect to the hypotheses formulated for the study.

Main Hypotheses

1. The first main hypothesis stated that there is no significant difference between the readiness scores of those students involved in three different levels of preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

2. The second main hypothesis stated that there is no significant difference between the self-concept scores of those students involved in three different levels of preschool training. A one-way analysis of variance technique

was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

3. The third main hypothesis stated that there is no significant difference between the amount of school attendance of those students involved in three different levels of preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

Supplemental Hypotheses

1. The first supplemental hypothesis stated that the readiness scores of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

2. The second supplemental hypothesis stated that the readiness scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

3. The third supplemental hypothesis stated that the self-concept scores of those students receiving preschool training will not be significantly higher than those of

students receiving no preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

4. The fourth supplemental hypothesis stated that the self-concept scores of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

5. The fifth supplemental hypothesis stated that the amount of school attendance of those students receiving preschool training will not be significantly higher than those of students receiving no preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis was rejected.

6. The sixth supplemental hypothesis stated that the amount of school attendance of those students receiving two years of preschool training will not be significantly higher than those of students receiving one year of preschool training. A one-way analysis of variance technique was used to test the hypothesis at the .05 level of significance. The hypothesis could not be rejected.

In addition to the results of the tests of the hypotheses, two additional findings from the study were considered

to be of important value. First, as shown in Tables III through XIX, in Chapter IV, for each hypothesis tested in the study, the mean group score for school readiness, self-concept and attendance was, in every instance, in the direction of the group with the longest and most extensive preschool experience. Second, as shown in Table XLI, Appendix G, the median score adjusted for kindergarten testing on the Metropolitan Readiness Tests, for Group I, the group with the longest and most extensive preschool experience, was above the median score indicated by the national norms, while the adjusted median scores for Group II and Group III were still below the median score indicated by the national norms.

Conclusions

The conclusions indicated below were drawn from the findings of this study:

1. It was concluded that, with the exception of item 2 below, the preschool programs which were used to provide either one or two years of preschool experience for the pupils included in the investigation were ineffective in producing any significant differences that could be detected in kindergarten on the criterion measures used, and by the instruments and statistical analysis employed in this study.

2. The investigation did disclose a significant difference in school attendance between the combined groups of pupils who received preschool training and those who

received no preschool training. It was concluded, therefore, that the combined effects of preschool experience as compared to no preschool experience aided in producing a significant difference in school attendance. It was assumed that this difference in school attendance was due, in part, to the parent involvement aspects of the preschool programs that were attended by the children used as subjects in this investigation.

3. It was also concluded that, while most of the mean differences were not significant, the preschool programs were effective in aiding to produce mean differences which, in every instance, on the hypotheses formulated for the criterion measures used in this investigation, favored the group with the longest and most extensive preschool experience.

4. The investigation also disclosed that the children with two years of preschool experience, those that attended both the three and four-year-old programs, were in an advantageous position with respect to the national norms on the instrument used to assess school readiness in this study, while those children with one year of preschool experience or no preschool experience were in a disadvantageous position with respect to those norms. It was further concluded, therefore, that the preschool programs providing two years of experience aided in producing readiness gains of sufficient magnitude so that the children's median score surpassed the median score indicated by the national norms.

5. The findings and conclusions reached from this study should be considered applicable only to the local school district and the children who attended the preschool programs investigated by this study.

Implications and Recommendations

In regard to the results of this study the following implications and recommendations were stated:

1. The children participating in Group I of this investigation were the first group of children to attend the Three-Year-Old Program. As a result of this initial experience as well as subsequent experience gained through working with such young children and their parents the program has undergone modifications. The validity of these findings should, therefore, be reviewed through additional investigations into the effects of the Three-Year-Old Program.

2. In addition, longitudinal studies, at least through the primary years, should be conducted to determine the effect of earlier preschool intervention on subsequent school performance. Any subsequent investigations should be organized in such a manner as to effectively control the independent variables and thus produce results which may be more readily generalized.

3. Although the investigation disclosed a significant difference only in school attendance between the combined groups of pupils that received preschool training and those who received no preschool training, the mean differences on

each criterion measure and the data indicating that the children who had two years of preschool experience scored above the national norms on school readiness indicates promise for earlier preschool intervention. On the basis of these findings the Three-Year-Old Program should be continued with every effort being made to improve the effectiveness and quality of the program until further investigations can be conducted.

4. The children with the Three-Year-Old Program experience who were included in this investigation were dispersed through several different Title I and Head Start classrooms for their four-year-old preschool experience. It is possible that additional benefits would accrue to participating children by maintaining separate four-year-old classes for those children with prior preschool experience.

5. The Three-Year-Old Program provided many services which were not included as part of this investigation. Nutritional, medical, dental and psychological services, among others, were provided to the participating children. In addition, participating parents voiced a strong approval for the school program even though this study failed to detect any statistical significance on either school readiness or self-concept. These services and the parental support for the school program should not be taken lightly.

6. Additional effort should be made to coordinate the Three-Year-Old Program with other preschool programs and

with kindergarten and primary classrooms to provide maximum continuity of programming.

Funds utilized to operate the preschool programs under consideration in this investigation were released by the Federal government based on a rationale that acknowledged the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs. Among the many alternatives available to schools, earlier intervention should certainly be considered wherever feasible as it promises to yield positive benefits for our children, and ultimately for our society. A more acceptable alternative might be for these families to be raised to a more acceptable economic level where choices for experiences of an educational nature for their children become more a matter of family choice and selection along with a great many other alternatives.

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APPENDIXES

APPENDIX A

STUDENT SELF-CONCEPT

RATING SCALE

Student_____

Rater_____

School_____Date_____

	Agree Very Strongly	Agree Strongly	Agree	Disagree	Disagree Strongly	Disagree Very Strongly
The Peer Group						
1. This child prefers to play with other classmates rather than playing alone						
2. When interacting with classmates, this child appears free from shyness and self-consciousness						
3. When interacting with classmates, this child appears to be not easily embarrassed						
The Teacher						
4. When relating to you, this child appears self-controlled and good tempered						
5. This child responds affirmatively to your requests						
6. This child appears to enjoy contact with you, but does not seek an undue amount of attention						
7. This child acts as if he believes you approve of his classroom behavior						
Classroom Performance						
8. This child is skilled in his utilization of classroom materials						
9. This child is creative in his utilization of classroom materials						
10. This child is competitive and makes an effort to excel						
11. This child responds positively to new learning situations						
Social Activities						
12. The child appears to enjoy playing the role of mediator among his fellow classmates						
13. This child appears pleased when requested to share with the class some of his creative efforts (i.e. painting, drawings, etc.)						
14. This child appears pleased when called upon to recite or otherwise inform his classmates (i.e. "show and tell" time, etc.						

APPENDIX B

REQUEST FOR RESEARCH APPROVAL AND AGREEMENTS

REQUEST FOR RESEARCH APPROVAL AND AGREEMENTS

Investigator(s): Douglas Hupp

Date: February 7, 1974

Permanent Address: Brumley Apartments, D3-4
Stillwater, Oklahoma 74074

Telephone: 405-372-6211
Ext. 6445

College Advisor: Dr. Kenneth St. Clair, Acting Head
Department of Administration and Higher Education
Oklahoma State University

Date request is initiated by student:	Date request approved by advisor and/or committee:	Date request approved by Wichita Schools Research Council:	Starting Date: 2/74 Completion Date: 8/74 Final Report 10/74 File Date: 10/74
2/7/74	1/18/74	2/74	

Complete six copies of this form. One for the OSU advisor and four copies to the Director of Research in Wichita Schools. One form is to be kept by the student. Use statements that are brief, concise and in good grammatical form and style. All projects must be dated and initialed by the approval individuals or offices before the commencement of any new project. A copy of the written report or abstract of the study must be deposited in the office of the Director of Research, Wichita Public Schools, upon completion of the study.

1. Statements of the problem to be studied:

The title of this proposed investigation is "The Effects of Preschool Intervention on Kindergarten Children." The proposed investigation would be undertaken to provide data on questions of current interest in education. The proposed investigation would compare the effects of preschool intervention at various age levels and for varying lengths of time on the school readiness, self-concept, and attendance of three groups of low-income kindergarten children.

2. Specific purpose of the study:

The purpose of this study is to determine whether three groups of low-income children, who are at the kindergarten grade level, demonstrate any significant differences in school readiness, in adequacy of self-concept, or in school attendance, after various amounts of preschool experience initiated at different age levels.

3. Hypothesis to be tested:

1. H_1: There is no significant difference between the readiness scores of those students involved in three different levels of preschool training.

2. H_1: There is no significant difference between the self-concept scores of those students involved in three different levels of preschool training.

3. H_1: There is no significant difference between the degree of school attendance of those students involved in three different levels of preschool training.

Over

4. Description of sample needed, desired location, and school staff to be contacted:
   (a) Sample needed: 54 children presently enrolled in kindergarten.
   (b) Schools involved: fourteen elementary schools.
   (c) School staff: School principal, regular classroom teacher, school counselor, and Coordinator of Pupil Evaluation and Guidance.

5. Procedures and methods to be employed (What will be done by the investigator and participants in the study, data to be gathered, data-collecting instrument to be used.) If possible, attach copies of instrument to be used in obtaining data.

Subjects included in this proposed investigation will be divided into three treatment groups: Group 1—preschool experience initiated at age 3 and continuing for two years. Group 2—preschool experience initiated at age 4 and continuing for one year. Group 3—no formal preschool experience.

Two instruments will be administered to each of the children participating in this investigation: (1) The Metropolitan Readiness Tests, and (2) The Student Self-Concept Rating Scale. Attendance data will be gathered from the appropriate school attendance records.

The data will be gathered with the cooperation and at the convenience of the participating schools. It will be suggested by the investigator that the data be gathered between February 20th and March 29th, 1974.

6. Data treatment and analysis:

The three main hypotheses will be tested at the .05 level of significance using a one-way analysis of variance for the three treatment groups.

The subjects providing data for this investigation and the participating schools will be guaranteed strict anonymity. The data will be handled in a confidential manner by the investigator. The results of this investigation will be made available to interested school officials at the conclusion of the project.

Approval		Date
Research Council Chairman	_____	_____
Research Council Member	_____	_____
Research Council Member	_____	_____
Research Council Member	_____	_____
Research Council Member	_____	_____
Building Principal(s)	_____	_____
	_____	_____
	_____	_____

APPENDIX C

LETTER OF CONSENT FROM DIVISION OF RESEARCH AND EVALUATION SERVICES

WICHITA PUBLIC SCHOOLS
Educational Services Building
640 North Emporia
Wichita, Kansas 67214

February 21, 1974

Division of Research and
Evaluation Services

Mr. Douglas Hupp
Brumley Apartments, D3-4
Stillwater, OK 74074

Dear Doug:

Your February 7 request to conduct research in the Wichita Public Schools has been reviewed by the Research Council. This will inform you that the request has been approved. A copy of the proposal form containing the signatures of selected members of the Council is enclosed.

Please keep me informed as the study progresses. Additional knowledge regarding the effects of preschool intervention is needed. If I can assist you further, please let me know.

Sincerely yours,

Ralph E. Walker, Director
Research and Evaluation
Services Division

Enclosure

cc: Dr. Lawrence Bechtold
Dr. Doyle Koontz
Dr. Donald Younglund

APPENDIX D

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE SIX TESTS INCLUDED IN THE METROPOLITAN READINESS TESTS

TABLE XX

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE WORD MEANING TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	10.1111	2	5.0555	1.3626*
Within Groups	189.2220	51	3.7102	
TOTAL	199.3331	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXI

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	7.50	1.65
Group II	18	6.55	1.82
Group III	18	6.61	2.25

TABLE XXII

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE LISTENING TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	5.4815	2	2.7407	0.6292*
Within Groups	222.1663	51	4.3562	
TOTAL	227.6478	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXIII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	9.72	1.93
Group II	18	8.94	2.71
Group III	18	9.27	1.40

TABLE XXIV

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE WORD MATCHING TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	23.1418	2	11.5740	1.3563*
Within Groups	435.2214	51	8.5338	
TOTAL	458.3694	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXV

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	7.66	3.18
Group II	18	6.27	2.44
Group III	18	6.27	3.08

TABLE XXVI

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE ALPHABET TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	28.2592	2	14.1296	0.9186*
Within Groups	748.4990	51	15.3823	
TOTAL	812.7581	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXVII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	11.22	4.22
Group II	18	11.38	3.58
Group III	18	9.77	3.93

TABLE XXVIII

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE NUMBERS TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	25.4444	2	12.7222	1.0475*
Within Groups	619.3875	51	12.1449	
TOTAL	644.8318	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXIX

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	11.88	4.11
Group II	18	10.66	3.00
Group III	18	10.27	3.23

TABLE XXX

A SUMMARY OF ANALYSIS OF VARIANCE
FOR THE COPYING TEST OF THE MRT

Source	SS	DF	MS	F
Between Groups	9.0370	2	4.5185	0.4014*
Within Groups	574.1660	51	11.2582	
TOTAL	583.2029	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXXI

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	5.94	3.15
Group II	18	4.94	3.20
Group III	18	5.38	3.68

APPENDIX E

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE FOUR SUBSCALE SCORES INCLUDED IN THE STUDENT SELF-CONCEPT RATING SCALE

TABLE XXXII

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE SELF-CONCEPT SUBSCALE, THE PEER GROUP, OF THE SSCRS

Source	SS	DF	MS	F
Between Groups	25.5926	2	12.7963	2.2739*
Within Groups	286.9995	51	5.6274	
TOTAL	312.5920	53		

*Critical $F_{.05} = 3.186$; $p < .25$

TABLE XXXIII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	14.27	2.42
Group II	18	13.22	2.36
Group III	18	12.61	2.32

TABLE XXXIV

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE SELF-CONCEPT SUBSCALE, THE TEACHER, OF THE SSCRS

Source	SS	DF	MS	F
Between Groups	17.3703	2	8.6851	0.7671*
Within Groups	577.4436	51	11.3224	
TOTAL	594.8137	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXXV

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	17.83	2.59
Group II	18	18.55	4.38
Group III	18	17.16	2.83

TABLE XXXVI

A SUMMARY OF ANALYSIS OF VARIANCE FOR
THE SELF-CONCEPT SUBSCALE,
CLASSROOM PERFORMANCE,
ON THE SSCRS

Source	SS	DF	MS	F
Between Groups	28.7775	2	14.3888	1.0045*
Within Groups	730.5552	51	14.3246	
TOTAL	759.3325	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXXVII

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	16.54	4.47
Group II	18	16.94	3.82
Group III	18	15.22	2.88

TABLE XXXVIII

A SUMMARY OF ANALYSIS OF VARIANCE FOR THE SELF-CONCEPT SUBSCALE, SOCIAL ACTIVITIES, ON THE SSCRS

Source	SS	DF	MS	F
Between Groups	1.7778	2	0.8889	0.1467*
Within Groups	309.0552	51	6.0599	
TOTAL	310.8328	53		

*Critical $F_{.05} = 3.186$; $p > .25$

TABLE XXXIX

GROUP MEANS AND STANDARD DEVIATIONS

Group	N	Mean	SD
Group I	18	13.27	2.53
Group II	18	13.05	2.66
Group III	18	12.83	2.14

APPENDIX F

CORRELATION MATRIX

TABLE XL

CORRELATION MATRIX

	SSCRS Total (1)	SSCRS Peer Group (2)	SSCRS The Teacher (3)	SSCRS Classroom Performance (4)	SSCRS Social Activities (5)	MRT Total (6)	MRT Word Meaning (7)	MRT Listening (8)	MRT Matching (9)	MRT Alphabet (10)	MRT Numbers (11)	MRT Copying (12)	School Attendance (13)
(1)		.6266	.6572	.8590	.8675	.4233	.1887	.1740	.2722	.4266	.2733	.3293	.2032
(2)	.6266		.1785	.3973	.4777	.0776	.1812	-.0798	.0613	.0974	.0470	.0152	.0694
(3)	.6572	.1785		.3330	.3801	.1677	.0381	.1944	.1052	.0926	.1301	.1433	-.2048
(4)	.8590	.3973	.3330		.7973	.5261	.1448	.2411	.3511	.5785	.3697	.4807	.2927
(5)	.8675	.4777	.3801	.7973		.3980	.2464	.0867	.2643	.4688	.2193	.2694	.2686
(6)	.4233	.0774	.1677	.5621	.3980		.4145	.4903	.7804	.7139	.7797	.8309	.2702
(7)	.1887	.1812	.0381	.1448	.2464	.4145		-.0334	.3356	.1609	.3310	.1483	.1948
(8)	.1740	-.0798	.1944	.2411	.0867	.4903	-.0334		.3697	.1801	.1904	.4851	.0287
(9)	.2722	.0613	.1052	.3511	.2643	.7804	.3356	.3697		.3312	.5633	.6169	.1218
(10)	.4266	.0974	.0926	.5785	.4688	.7139	.1609	.1801	.3312		.4426	.5195	.3789
(11)	.2733	.0470	.1301	.3697	.2193	.7797	.3310	.1904	.5633	.4426		.5255	.1396
(12)	.3293	.0152	.1433	.4807	.2694	.8309	.1483	.4851	.6169	.5195	.5255		.1749
(13)	.2032	.0694	-.0248	.2927	.2686	.2702	.1948	.0287	.1218	.3789	.1396	.1749	

APPENDIX G

THE MEDIAN SCORE FOR THE THREE GROUPS ADJUSTED FOR LATE KINDERGARTEN TESTING AND THE CORRESPONDING PERCENTILE RANKS ON THE METROPOLITAN READINESS TESTS

TABLE XLI

THE MEDIAN SCORE FOR THE THREE GROUPS ADJUSTED FOR LATE KINDERGARTEN TESTING AND THE CORRESPONDING PERCENTILE RANKS ON THE METROPOLITAN READINESS TESTS

Group	Adjusted Median Score	Percentile Rank
Group I	61.5	64
Group II	52.5	45
Group III	51.5	43

VITA

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