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THE EFFECTS OF A SECOND YEAR IN KINDERGARTEN ON LATER SCHOOL ACHIEVEMENT AND SELF-CONCEPT

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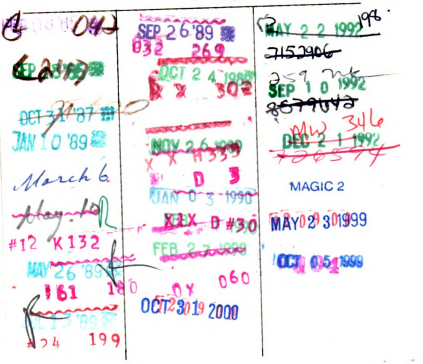

THE EFFECTS OF A SECOND YEAR IN KINDERGARTEN ON LATER SCHOOL ACHIEVEMENT AND SELF-CONCEPT

By

David Clay Stapleford

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ABSTRACT

THE EFFECTS OF A SECOND YEAR IN KINDERGARTEN ON LATER SCHOOL ACHIEVEMENT AND SELF-CONCEPT

By

David Clay Stapleford

The purpose of this study was to determine whether a second year in kindergarten when recommended was beneficial in terms of academic achievement without adversely affecting self-concept.

The study was conducted in six Department of Defense schools in West Germany on children of US military personnel. The sample comprised four groups formed according to whether or not a recommendation for a second year in kindergarten was received and then followed. Group R_0 (N = 123) was randomly chosen from all those who went into first grade with no recommendation. Groups R_1 (N = 42) and R_2 (N = 48) followed the recommendation during years one and two of the study, respectively. Group R_3 (N = 33) was those who did not follow the recommendation but went on into first grade instead.

Achievement was measured by a listening comprehension instrument, Listen to the Story, published by Addison-Wesley. Self-concept was measured by SCAMIN, an instrument designed to assess the self-concept of young children. Assessments were made in October and May of school years 1980/81 and 1981/82. Data from these two instruments along

with data concerning age, gender, sample group, and whether teacher recommendation was given for a second year in grade one were examined by a one-way analysis of variance design.

Major Findings

(1) Self-concept did not decrease after a second year in kindergarten.

(2) Those recommended for a second year of first grade tended to be those from group R_3.

(3) The repeated year achievement and self-concept scores of groups R_1 and R_2 were notably similar to the first year scores of group R_0.

(4) Those who were recommended for additional kindergarten were 3.4 months younger than those who were not.

(5) Those who were recommended for additional first grade were 1.5 months younger than those who were not.

(6) The profile of self-concept scores appeared to follow a pattern associated with grade level rather than age level.

With respect to both achievement and self-concept, a second year of kindergarten when recommended is advisable. It is recommended that kindergarten be considered as the most appropriate level at which to recommend a second year in grade when necessary.

This study is dedicated to my children,

TODD STAPLEFORD and DANA STAPLEFORD,

who have given me a greater understanding
of children and a deeper sense of love.

ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. Peggy Riethmiller, Dr. Pete Cooper, and Dr. Richard Gardner, who served on my guidance committee.

Special thanks are due to Dr. Ben Bohnhorst, committee chairman, for his invaluable guidance.

I am indebted to Dr. Louise Sause, who has provided invaluable insights toward my understanding of the young child.

Last, to my wife, Betty Stapleford, for her understanding, encouragement, and love which made the undertaking and completion of this study possible, I express my deepest gratitude.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

THE PROBLEM

Background and Need for the Study

For more than a century, American schools have utilized a graded organization in which students must master, to a certain degree, the curriculum of one grade level prior to admittance to the next grade level. This graded organization brought into sharp focus the reality that children of the same age learn at different rates. Curricular mastery is not always concurrent with the predetermined organizational timetable of the curriculum. This characteristic of learning was identified as a problem of academic deficiency which had to be dealt with. Those who had not mastered the curriculum could not accompany their peers to the next grade level. Providing the child with a second experience in that grade was thought to be the most appropriate way to remedy those academic difficulties (Jackson 1975).

Research has found that as a result of grade repetition children often feel a sense of failure at not being able to perform as well as their peers (White and Lee 1972; Godfrey 1972). Their sense of adequacy is not as strong as before the repetition. Research has been done on the interrelationship between the lack of academic success and the

self-concept in order to provide data upon which to make decisions about the efficacy of grade repetition. The research results have been helpful in making decisions about children in grades one and above. But the research does not have much to say concerning kindergarten children and the practice of providing an additional year in grade.

Statement of the Problem

Despite the dearth of research, kindergarten is, nevertheless, an important part of the school system. It is the time when readiness skills are first taught and assessed. Children begin to practice under supervision how to be successful in school. A lack of research with kindergarten can obviously offer no research base for decisions dealing with grade repetition at the kindergarten level. Certain questions remain to be answered by research. Does nonpromotion at this initial level of schooling have a negative effect on later school achievement and self-concept? Or does a second year in kindergarten benefit the children who repeat that grade? Is kindergarten repetition a viable procedure for helping children meet with academic success? This study seeks to provide the data with which to answer these questions.

Purpose of the Study

The purpose of this study was to gather and analyze data among four groups of children over a two-year period

to determine the effects of kindergarten repetition on school achievement and self-concept.

The four groups examined were:

(1) Children identified by their teachers as not ready for first grade and proceeded into first grade.

(2) Children identified by their teachers as not ready for first grade who were already in their second year of kindergarten during the first year of this study.

(3) Children identified by their teachers as not ready for first grade experience and remained in kindergarten a second year. That second year occurred during the second year of the study.

(4) Children identified by their teachers as not ready for first grade but for some reason did in fact go on into first grade immediately after their initial year in kindergarten.

Data were gathered four times, during the fall and spring of the 1980/81 and 1981/82 school years. School achievement was assessed by the listening comprehension measure, Listen to the Story A, Listen to the Story B, and Listening C, published by Addison-Wesley. The Self-Concept and Motivation Inventory, or SCAMIN, was the other data gathering instrument. The SCAMIN, level P/K for kindergarten and EE for first grade, is a self-concept scale designed for the primary child.

Significance of the Study

The practice of having children repeat grades in order to remediate academic difficulties has received a good deal of research attention. From the early portion of this century to the present, the practice of repeating a grade has been examined from a variety of points of view with children from elementary, junior, and senior high school as well as from the college level. However, there is insufficient research to date dealing with kindergarten and the question of grade repetition.

This study will provide data to help meet the need for more research necessary for making valid decisions concerning the problem of whether or not to have children experience another year in grade at the kindergarten level.

Hypotheses

This study examined the question of kindergarten retention. Specifically, does a second year in kindergarten, when recommended, have a positive effect on subsequent school achievement and self-concept?

It was hypothesized that:

Hypothesis 1. Children who at the recommendation of their teachers experience a second year of kindergarten will have a higher mean achievement score on a measure of listening comprehension (Listening) than those children who go on into first grade in spite of the recommendation for another kindergarten experience.

Hypothesis 2. Children who at the recommendation of their teachers experience a second year of kindergarten will have mean scores on a measure of self-concept (SCAMIN) that do not decrease after their second year in kindergarten.

Hypothesis 3. The group of children who go on into the first grade in spite of the recommendation for another kindergarten experience will have a significantly higher percentage of recommended retentions at the end of their first grade year than will the promoted group.

Hypothesis 4. Children who at the recommendation of their teachers experience a second year of kindergarten will at the end of first grade obtain mean achievement scores as measured by Listening closer to those of the promoted group than will those who went on into first grade in spite of a recommendation for a second year of kindergarten.

Assumptions

This study is based on certain assumptions about the way in which children grow and learn.

Children develop both physically and mentally at different rates. It is typical for children of the same age to perform at different intellectual levels. There is significant variability in the age at which children become intellectually capable of achieving success in typical first grade reading programs. Successful completion of a given

level of curriculum takes longer for some children than others.

There is an interrelationship between self-concept and academic achievement. A significantly diminished self-concept hinders academic development, and failure, when so perceived, leads to a diminished self-concept.

Limitations

The study involved 873 pupils in six different schools. By the time the study was concluded, attrition had adjusted the population to 619 pupils, or about seventy percent of the original population. However, the resulting population did yield a group of 123 children who were recommended for a second kindergarten year, which was sufficient for the study.

The test instruments for both achievement and self-concept were administered by the researcher for all testing sessions. It is possible that different results may have been achieved if the classroom teachers had administered the instruments. But it was felt that for the purpose of standardization of the testing sessions, one administrator could best control the testing environment.

The researcher was aware that the effects of a self-fulfilling prophecy could have influenced the results from the measurement instruments. However, since each class to whom the instruments were administered comprised an unknown number of members from each of the four groups, the results

would most likely have been influenced in the same way for all members of the sample. The relative differences among the groups would have remained regardless of the influence of the effect mentioned.

In the second year of the study, while group R_2 remained in kindergarten for a second year, each of the other groups was in first grade. Although those of group R_2 were not integrated with the other groups, which would have assured administrative standardization as in the first year of the study, the researcher made great effort to maintain the same administrative techniques and style for both kindergarten and first grade groups.

The preconceived notion that a second year in kindergarten is detrimental to later school success and self-concept may have influenced decisions by teachers, administrators, and parents to place some children in first grade who may have otherwise experienced a second year in kindergarten based on their teacher-assessed readiness for first grade. Children so placed in first grade would not be identified and accounted for as a distinct group. Such a group may have been a source of contamination.

Testing young children of kindergarten and first-grade age presents difficulties in gathering reliable data. Since for most children their experience in test taking is just beginning, the test and testing milieu may offer an intimidating situation which confounds the scores of those affected. Attention span and the ability to track a

standardized set of sequential ideas, two important traits which can influence test results, may be developed to a great extent or may only be minimally developed.

While the listening comprehension instruments are a measure of what the child understands, the self-concept instruments assume understanding of the items and then measure the level of self-esteem based on that assumption. Responses of children who do not have such understanding of an item or items are not reliable indicators of their level of self-esteem.

So much of the curriculum at this level, whether social studies, reading, science, or math, depends upon the child's interpretation of the spoken word that it was thought that a listening comprehension measure would be a good measure of generalized school performance. Yet a measure of listening comprehension cannot be truly equated with school achievement since there is much more than ability to comprehend spoken language involved in overall school achievement. Also, there may have been many who could not function well on listening comprehension measures; their responses would not accurately represent their generalized school achievement. It was decided, though, to utilize a measure of listening comprehension since the curriculum of kindergarten and also first grade relies greatly on listening skills.

Definition of Terms

Achievement - refers to the score received on the measure of listening comprehension utilized, Listen to the Story and Listening. Achievement gains (those increases in scores from one testing period to the next) are brought about by maturation, practice, as a result of being taught, or a combination of these; however, the particular cause of achievement score changes over time is not considered in the scope of this study.

Self-Concept - as used in this study, refers to the collection of ideas developed about one's own personality and includes those things one might report about his personality, his states, and his actions in hypothetical situations. In an operational sense, self-concept is that construct assessed by the SCAMIN, the instrument used to measure what the researcher refers to as self-concept.

Nonpromotion, Repetition, and Retention - The concept of nonpromotion includes within it the somewhat different terms retention and repetition. Repetition is the completion of a grade level a second time during which time the student is actively engaged in activities that promote his growth in the curriculum to be mastered. Retention, semantically speaking, carries with it a similar literal meaning but a significantly different implied meaning. The connotation in the term retention

is that the student is merely held back; no notion of learner participation is present. However the terms may differ semantically, as used throughout the remainder of this paper, nonpromotion, repetition, and retention will be used interchangeably and will signify student involvement in a grade level a second time for the purpose of dealing with academic deficiencies (Jackson 1975).

Later School Achievement - refers to achievement as measured by Listen to the Story or Listening during the second year of the study.

Later Self-Concept - refers to self-concept as measured by SCAMIN during the second year of the study.

Organization of the Study

Chapter I includes the background and need for the study, statement of the problem, purpose of the study, significance of the study, hypotheses, assumptions, limitations, and definition of terms.

In Chapter II, a review of the related literature and research is presented. Chapter III details the procedures used in gathering and analyzing the data, and Chapter IV presents and discusses the analyzed data. Chapter V summarizes the study, presents conclusions drawn, and gives recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

The practice of having children repeat grades in order to remediate academic difficulties has received a good deal of research attention. The purpose here is to review that research in order to address the following research question: Does a second year in grade have a negative effect on later school achievement and self-concept?

In this chapter, a review of the related literature is provided beginning with an historical view of nonpromotion followed by the effect of nonpromotion on later school achievement, the effect of nonpromotion on self-concept, and last, the conclusions.

An Historical View of Nonpromotion

Nonpromotion is not an inherent characteristic of education. It emerged out of a particular structure of education as a means to address a need that was created because of that very structure. When schools became graded, mastery of subject matter became closely associated with mastery by predetermined chronological ages. To assist those who did not meet the specified requirements for mastery, an additional exposure to the material, a second chance, was given.

Usually this meant that an entire grade level was repeated (Jackson 1975; Suarez 1977).

In what came to be known as social promotion, there was a movement that reacted against nonpromotion. During the second quarter of this century, it was put forth by educators, sociologists, and psychologists that proper attention should be given to the emotional and social needs of the developing child. The restriction of a child's growth with respect to these needs, it was argued, could likely lead to psycho-social disorders. And further, retention was just such a restriction on the child's total maturational development. The peer group within which the child develops became recognized as a significant determinant of the child's notion of himself, his self-concept. Social promotion would see to it that the natural progression toward social maturity would not be interupted. To effectively deal with academic deficiencies, remedial teaching and remedial materials were used in place of retention (Jackson 1975; School District of Philadelphia 1965).

In order to have valid information upon which to base decisions about the relative value of nonpromotion used as an educational tool to effectively nurture the total growth of a child, research in the practice of nonpromotion and an analysis of that entire body of research is necessary. Whether there is a connection between nonpromotion and achievement and self-concept must be shown through research. The following review is an attempt to present a digest of

the studies on nonpromotion and how it bears on school achievement and self-concept.

The Effect of Nonpromotion on Later School Achievement

There is a great amount of research covering the last forty years dealing with the effect of nonpromotion on later school achievement. Cheyney (1956) found that the retention of students adversely influenced their academic achievement. He concluded that it was a slow learning rate that caused the lack of readiness for the next grade's work and that retention does not affect this innate aspect of the child.

Street and Leigh (1971) support this conclusion. They found that a student who attempts first grade twice is not substantially better off than he or she was after completing the grade the first time. An interesting influence they discovered was that of entrance age to first grade. Those who entered significantly younger had more academic problems and were more likely to be retained than those who entered at a significantly older age.

Keyes (1911) found in a seven-year study of 5,000 students that one in five nonpromoted children showed improvement during the subsequent repeated year. Two-fifths showed no improvement, and two-fifths declined in their achievement (Pottorff 1978).

Gaite (1971) examined middle and high school students with respect to achievement and nonpromotion. Most students

did not significantly benefit from a second exposure to the curriculum. Gaite questioned whether retention could be justified on the ground that it contributed to the achievement of only a few students in a small number of the subjects studied.

Reinherz and Griffin (1970) considered that learning readiness may greatly affect achievement and subsequent academic success. They suggested transitional or ungraded classes for those students having difficulties meeting the achievement criteria for promotion. Such classes could accommodate the needs of students without having to resort to retention and its accompanying ill effects. This is one method designed to alleviate the ill effects of nonpromotion by taking away one set of parameters that create the problem. Without strict adherence to structured grade levels, the idea of retention seems foreign and without significant meaning or utility.

In a longitudinal study involving the long-term effects of nonpromotion, Abindin, Golladay, and Howerton (1971) found that retained students' academic achievement during the first six grades significantly declined in relation to the achievement of promoted students, those who had never been retained.

Godfrey (1972), using a comparatively large sample of 1,200 middle school students, examined the notion that retention does help a child to catch up academically.

Based on reading and math achievement results, it was found that promoted students were nearly two grade levels above those who were retained once and about two and one-half grade levels above those who were retained twice. These findings led to the conclusion that retention does not help a child to catch up academically.

Paramore, Plantac, and Hospodar (1973) found that reading scores actually declined for the nonpromoted group of first graders. Those that had been promoted gained in reading achievement as might be expected. The researchers identified the fact of retention itself as having a negative effect on reading achievement.

Saunders (1941) conducted a survey of the research done on the effect of nonpromotion on achievement. He drew from his review that nonpromotion seldom assists in gaining mastery of subject matter. He concluded that retention for the purpose of learning subject matter is not justifiable based on the preponderance of research as reported by Pottorff 1978.

Another survey of research completed more recently was accomplished by Jackson (1975). Jackson, though, examined and reported on not only the results of research but the very type and form of research that was done. One of the most common and elementary designs employed compares the progress of students retained with progress of students promoted. Jackson noted that such designs are biased

toward grade promotion since the nonpromoted students always, almost by definition, have more difficulties than promoted students; if they did not have more difficulties, they would not have been retained, Jackson brought out. Generally, studies having this type of design show that promoted students progressed faster than nonpromoted students. Another type of research design compares the condition of nonpromoted students after completion of their retention period with the condition of those same students prior to the retention period. It should be noted that this type of design does not analyze the relative influences of promotion and nonpromotion as it only deals with nonpromoted students. Data from this type of design lead to conclusions that individuals retained for a year appear to have a better grasp of the subject matter at the end of the retention period than at the beginning.

Jackson described another research design that examines the condition of students having problems as assigning them experimentally to either a promotion or retention group. Such a design yields data on the effect of retention on those retained and also yields data on the relative influences of retention and promotion. Jackson found only three studies that utilized this third type of design. Since their results were not statistically significant, no important conclusions were put forth. The major importance of Jackson's work is to show that no clearly reliable body

of evidence exists to demonstrate that nonpromotion is indeed more beneficial than promotion. He pointed out that teachers and administrators who retain children are acting without valid research which would show that nonpromotion is better than promotion for attending to the academic difficulties of children.

Turley (1979), in a three-year study of kindergarten retention, found that children benefited from a second year in kindergarten as measured by first grade reading and mathematics achievement. She reported that when formal instruction in reading and mathematics is delayed for a year pupils tend to catch up to their classmates. Also, those who read early do not tend to surpass those pupils who had repeated kindergarten.

Turley's study is one of the few that reports positive findings with respect to retention. This study is important because of the experimental research design employed, as mentioned by Jackson earlier. Unlike the three studies found by Jackson that did utilize this research design, Turley's study provided statistically significant results. Her study is also of particular interest because it deals specifically with kindergarten retention.

The Effect of Nonpromotion on Self-Concept

There have not been a great deal of research studies that address the particular issue of nonpromotion and its

effect on self-concept. These studies have tended to have a similar research design in that nonpromoted students are compared to promoted students. But as mentioned earlier, research of such design leaves much to be desired. Such research cannot answer the question: does a poor self-concept contribute to school failure or does school failure contribute to a poor self-concept?

White and Lee (1972) found that failure to be promoted was associated with a negative self-concept. Godfrey (1972) also found that retention had detrimental effects on self-concept. Morrison (1956) noted that average children, (and most were average due to the fact of retention) had lower self-concept scores than their peers. Both Goodlad (1954) and Bedoian (1954) reported similar findings.

There are other studies similar to these in that all report self-concept to be negatively affected by retention. And it is again significant to note that this body of research cannot address the question of causation. Does poor self-concept contribute to retention, or does retention contribute to poor self-concept?

This question, fundamental to decision making concerning nonpromotion, has been successfully addressed using a different sort of research design. Finlayson (1977) has studied children before they have failed and followed their self-concept development after their nonpromotion. His study utilized three groups: nonpromoted, promoted, and borderline. This last group was selected to highlight the

effect of nonpromotion on self-concept between promoted and nonpromoted groups. Children of the borderline group had the same characteristics as those of the nonpromoted group except that for various reasons they were promoted. This type of controlled research seeks to eliminate all the variabilities between the treatment and control groups except for the one under examination. Here the variable is the effect of nonpromotion.

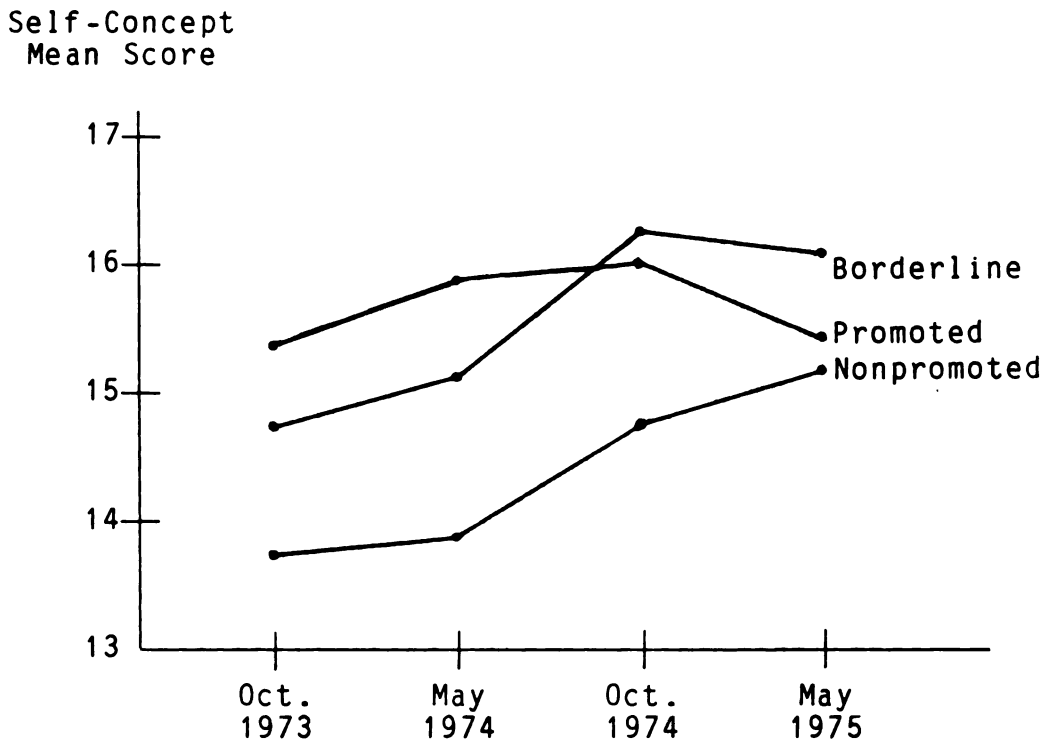

Figure 2.1. Self-Concept for Three Groups Over Time

Figure 2.1 plots mean self-concept scores against time for the three groups. Note that after nonpromotion, October 1974, the nonpromoted group continued to increase its self-concept scores while the borderline and promoted

groups dropped during the second year. At the end of the study, the promoted and nonpromoted groups had scores that were practically the same. Nonpromotion, this study concludes, did not have a negative effect on the self-concept of pupils. In fact, it gives empirical support to the notion that nonpromotion is a valid practice and may be a good resource for dealing with academic deficiencies.

Conclusions

The great preponderance of research evidence indicates that nonpromotion has a negative effect on achievement. For the purpose of learning subject matter, it is not a justifiable practice based on the research. However, attention must be given to Turley's findings to the contrary because of the research design used and the nature of the kindergarten grade level she studied. The requirement for pupils to be held accountable for mastery of a rigid curriculum of reading and mathematics is not typically present at the kindergarten grade level. Relative to the number of studies on achievement, those dealing with the nonpromotion effects on self-concept are few. Virtually all of them report a negative impact of retention on the self-concept. Unfortunately, the design of these studies cannot help us to understand whether school failure does lead to poor self-concept or poor academic achievement. Perhaps it is that lower self-concept or poor academic achievement leads to school failure. The question remains.

It is important to underscore here that based on the research findings and on a knowledge of the research designs themselves it cannot be said that nonpromotion has a negative effect on achievement, but rather that nonpromotion has not been shown to be effective in remediation of academic difficulties. The question arises, then, why has it not been effective? or stated in another way, why are nonpromotion groups different in achievement gains from promoted groups?

One possibility is, of course, simply that retention has a negative effect on achievement. But other important possibilities may not have been tested such as learning rates, learning styles, teacher expectations, and psychosocial problems of the students. Any one or combination of these factors might bear significantly on a broader understanding of the effects of nonpromotion.

There were two studies which utilized a design of particular experimental significance. They found nonpromotion to be, contrary to the great body of research, a valid practice. The importance of those two studies should not be minimized.

This study is undertaken to provide data on retention by utilizing an experimental research design. Its purpose is to examine both self-concept and school achievement in considering whether retention is a viable practice for pre-first grade children.

CHAPTER III

METHODOLOGY

Introduction

Does a second year in kindergarten benefit children for whom another year is recommended? Does a second year in kindergarten have a negative effect on self-concept? Data were gathered and analyzed in order to investigate the relationship between a second year in kindergarten and both achievement and self-concept of pupils. The methodology used to conduct this study is described in this section.

Population

The population with which this study was concerned consisted of kindergarten children enrolled in six Department of Defense Dependents Schools in the Kaiserslautern area of West Germany. The children in these schools were dependents of U.S. military personnel or of American civilians working for the Department of Defense.

Sample

The sample included those children for whom a second year of kindergarten was recommended, whether or not that

recommendation was followed. Also included in the sample was a group of promoted children whose number was equivalent to the total group recommended for a second year of kindergarten. Using a table of random numbers, the sample group of promoted children was randomly chosen from all promoted children.

The number of girls and boys in each of the sample groups is shown in Table 3.1

Table 3.1. Pupil Sample by Gender

Group	Boys N	Girls N	Total N
R_0	60	63	123
R_1	22	20	42
R_2	26	22	48
R_3	16	17	33
	124	122	246

There were thirty-four sessions of kindergarten in the six schools with a total enrollment of 873 kindergarteners or about twenty-seven children per session on the average.

Procedures

There were four data gathering sessions: in October and May of the 1980/81 and 1981/82 school years. Having received permission from both district and school

administrators, the researcher met with the teachers of the children to be tested in each school. The purpose of the study was detailed and the test instruments described. A schedule of testing was constructed with the assistance of the teachers just prior to each fall and spring testing session.

The self-concept and achievement tests, each approximately thirty minutes in length, were given on separate days and always in the children's own classroom with their teacher present. The researcher provided all materials necessary for the test to the children which included test booklets or answer sheets and crayons for marking responses. Each test was scored and recorded in a master data record by the researcher. To assure anonymity, students were given identification numbers.

Formation of Groups

In the spring of the first year of the study, teachers indicated those pupils to whom a recommendation for a second year in kindergarten would be given (see Appendix A). In the following fall, enrollment lists in each school were checked by the researcher to determine who of the group recommended for another kindergarten year did not follow that recommendation but instead did actually go on into first grade. Those children became the "R_3" group. Those children in first grade during the second year of the study who received no recommendation for a second year were the

promoted group, "R_0." Those children that followed the recommendation for a second year in kindergarten were designated "R_2" if their second year in kindergarten corresponded to the second year of this study, or "R_1" if their second year in kindergarten occurred during the first year of this study. In the spring of the second year of the study, teachers indicated those pupils to whom a recommendation for a second year in first grade would be given (see Appendix B). This information was used for determining the number of recommended retentions in the R_3 and R_0 groups.

Because it is the practice in the Department of Defense Dependents Schools not to consider those who have completed a second year in one grade for a second year in the next grade, there were no children from group R_1 who received the recommendation for another year in grade one, although there may not have been anyone who would have received the recommendation anyway.

Data Gathering Instruments

Achievement Test

Three separate levels of a measure of listening comprehension were used to assess the children's ability to listen, understand, recall, and interpret events in a story. Listen to the Story A designed for preschool through fall kindergarten use, Listen to the Story B designed for spring kindergarten through fall first grade use, and Listening C, designed for spring first grade

through fall second grade use are measures of receptive language. These tests have been developed by the Educational Testing Service and are published by the Addison-Wesley Publishing Company.

The alpha reliability, an estimate of the internal consistency of a test, is reported in the test manual to be .79 for Listen to the Story A and .87 for Listen to the Story B. The alpha reliability for Listening C is .85.

The standard error of the measurement is reported in the test manual to be 1.92 for the fifteen-item Listen to the Story A and .87 for the thirty-eight-item Listen to the Story B. The standard error of the measure for the forty-item Listening C is 2.4.

Self-Concept Test

Two separate levels of the Self-Concept and Motivation Inventory (SCAMIN) were used to assess the self-concept of all pupils in the sample. The first level, the Preschool and Kindergarten Form (P/K), was designed for pupils aged four through kindergarten; and the second level, the Early ElementaryForm (EE), was designed for first through third-grade pupils.

As reported in the Eighth Mental Measurements Yearbook (Buros 1978):

> SCAMIN provides a face-valid measure of school related self-concept. . . . The validity and reliability of the inventory have not been established. Its many-face format makes it an appealing choice for administration to young children.

> In instances where content and face validity are sufficient, it may well be the measure of choice. There is probably sufficient stability in scores for group assessment. In the absence of representative norms . . ., one can still make meaningful statements about improvement over time or comparisons between treated and untreated groups. For these reasons, the inventories are appropriate for program evaluation or research.

The single reliability coefficients reported are .79 for level P/K and .77 for level EE. This is adequate for group data (Buros 1978).

As this study dealt with self-concept, the portion of the instrument dealing with motivation was not used. Only that portion addressing self-concept assessment was utilized.

Testing Schedule

The tables below show the time at which each group in the sample received the various data gathering measures. R_0 designates the group of children who were promoted to first grade without recommendation for a second kindergarten experience. R_1 designates the group of children who followed teacher recommendation for a second year in kindergarten but their second kindergarten year occurred during the first year of this study. R_2 designates the group of children who followed teacher recommendation for a second year in kindergarten; their second kindergarten year corresponded to the second year of this study. R_3 designates the group of children who went on into first grade in

Table 3.2. Schedule for the Administration of the Various Levels of the Achievement Measure.

Groups	$Fall_1$	$Spring_1$	$Fall_2$	$Spring_2$
R_0	A	B	B	C
R_1	A	B	B	C
R_2	A	B	A	B
R_3	A	B	B	C

A = Listen to the Story A
B = Listen to the Story B
C = Listening C

Table 3.3. Schedule for the Administration of the Various Levels of the Self-Concept Measure

Groups	$Fall_1$	$Spring_1$	$Fall_2$	$Spring_2$
R_0	K	K	E	E
R_1	K	K	E	E
R_2	K	K	K	K
R_3	K	K	E	E

K = Kindergarten level of SCAMIN
E = Early elementary level of SCAMIN

spite of teacher recommendation for a second year in kindergarten.

Data Analysis

Data were analyzed to determine if there were significant differences in the groups under study. The statistical procedures used were the t-test, to determine whether differences between groups were significant, and analysis of variance, to compare the mean achievement scores as well as the mean self-concept scores of the four groups. When significant differences between groups were found, the Tukey-HSD Procedure was used to indicate where those differences were. Analysis of variance was used also to determine if age and pupil gender influenced the achievement or self-concept scores.

Chi square was used to determine if the observed frequency of recommendations for a second year significantly differed from the expected frequencies. First examined were the frequencies among groups, then among the age levels, and last between the sexes.

Group R_2 was administered the kindergarten form of each instrument during the second year, while the other groups were given the first grade form. Therefore, achievement and self-concept scores were converted to T scores so that a valid comparison of all groups, including the group in kindergarten during the second year of the study (R_2), could be made.

Hypotheses

H_1: At the end of this study, children who experience a recommended second year in kindergarten will have higher mean achievement scores on the measure of listening comprehension than children who do not experience a recommended second year in kindergarten.

$$\bar{X}_{R_1} > \bar{X}_{R_3}$$

H_2: Children who experience a recommended second year of kindergarten will have mean self-concept scores on the SCAMIN after their first-grade year that are not less than their mean self-concept scores at the end of their second kindergarten year.

$$\text{spring}_1\ \bar{X}_{R_1} \leq \text{spring}_2\ \bar{X}_{R_1}$$

H_3: Children who do not experience a recommended second year in kindergarten will have at the end of this study a significantly higher percentage of recommendations for a second year of first grade than will the promoted group.

$$\%R_{R_3} > \%R_{R_0}$$

H_4: At the end of first grade, children who experience a recommended second year in kindergarten will obtain mean achievement scores on the listening comprehension measure which will be closer to the mean achievement

scores of the promoted group than will the scores of those who did not experience a recommended second year in kindergarten.

$$X_{R_0},\ X_{R_1} > X_{R_3}$$

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Introduction

The purpose of this study was to examine the effect of a second year in kindergarten when recommended by teachers on student achievement and self-concept at the end of first grade, a year after the second kindergarten experience. Listening, a measure of listening comprehension, was the instrument utilized to gather the achievement data. The SCAMIN was used to assess the self-concept levels within the sample. The statistical analyses of data from these instruments are presented in this chapter.

Analysis

Hypothesis 1 was that at the end of the study, children who experience a second year of kindergarten (R_1) will have higher mean achievement scores on Listening, the measure of listening comprehension, than those children who do not experience a recommended second year of kindergarten (R_3). The t-test statistics suggest that the difference in means between groups R_1 and R_3 is significant below the .05 level of confidence. This confirms hypothesis 1 that $\bar{X}_{R_1} > \bar{X}_{R_3}$. Table 4.1 presents the statistical data.

Hypothesis 2 was that children who experience a recommended second year of kindergarten will have mean self-concept scores on the SCAMIN after their first-grade year that are not less than their mean self-concept scores at the end of their second kindergarten year. The t-test was utilized to determine if the difference between the means was significant. In fact, a significant difference was found below the .05 level of confidence. This confirms Hypothesis 2 that:

$$\text{spring}_1 \ \bar{X}_{R_1} \leq \text{spring}_2 \ \bar{X}_{R_1}$$

The t-test data are presented in Table 4.2.

Hypothesis 3 was that children who do not experience a recommended second year in kindergarten (R_3) will have at the end of their first-grade year a significantly higher percentage of recommendations for a second year of first grade than will those who received no recommendation for a second kindergarten experience (R_0). The percentage data, presented in Table 4.3, by itself provides information readily understood from which conclusions can be made.

Of those recommended for a second year in grade one, 29.4% came from group R_0, but 70.6% came from group R_3. The table also shows that only 8.1% of group R_0 received the recommendation, but fully 72.7% of group R_3 were recommended for another year in first grade. The children of group R_3 were much more likely than not to receive the recommendation

Table 4.1. A Comparison of Achievement Scores of Those Following (R_1) and Those Not Following (R_3) the Recommendation for a Second Year in Kindergarten.

Group	Number	Mean	Standard Deviation	t	2-Tail Probability
R_1	42	34.05	3.64		
				6.62	0.000*
R_3	33	26.48	5.72		

*Significant below the .05 level of confidence.

Table 4.2. A Comparison of Self-Concept Scores of Those Experiencing a Second Kindergarten Year (R_1).

Group	Number	Mean	Standard Deviation	t	2-Tail Probability
R_1					
Spring 81	42	29.02	3.57		
				-21.89	0.000*
Spring 82	42	42.69	3.94		

*Significant below the .05 level of confidence.

Table 4.3. Cross Tabulation Data for Groups R_0 and R_3 Versus Recommendations for a Second Year in Grade One.

		No Recommendation Given for a Second Year in Grade One	Recommendation Was Given for a Second Year in Grade One	Row Total
R_0	N	113	10	123
	Row %	91.9	8.1	78.8
	Column %	92.6	29.4	
	Total %	72.4	6.4	
R_3	N	9	24	33
	Row %	27.3	72.7	21.2
	Column %	7.4	70.6	
	Total %	5.8	15.4	
	Column Total	122 78.2	34 21.8	156 100.0

R_0 = Children not recommended to experience a second year in kindergarten.
R_3 = Children recommended to experience a second year in kindergarten but did not.

and they were much more likely than those of group R_0 to be recommended.

A chi-square test was used to statistically compare the observed frequencies with expected frequencies of recommendations for a second year in first grade for groups R_0 and R_3. The value of chi-square was 63.70 with one degree of freedom, which is significant below the .05 level of confidence. This confirms Hypothesis 3 that $\%R_{R_3} > \%R_{R_0}$.

From Table 4.3, it can be seen that while only 8.1% of group R_0 received a recommendation for a second year in first grade, 72.7% of group R_3 received the same recommendation.

Hypothesis 4 was that at the end of the study, first-grade children who experienced a recommended second year in kindergarten (R_1) will obtain mean achievement scores on the listening comprehensive measure, Listening, which will be closer to the mean achievement scores of the promoted group (R_0) than will the scores of those first graders who did not experience a recommended second year in kindergarten (R_3). An analysis of variance, one-way, was used to compare the mean scores on the achievement measure of those who received a recommendation (R_1, R_3) with those who did not receive a recommendation for a second experience in kindergarten (R_0). The value of the F test is 41.784, with degrees of freedom of 3 and 242, which is significant below the .05 level of confidence. The data are presented in Table 4.4.

The Tukey Test for Honestly Significant Differences (HSD) was utilized for a more specific analysis. The group

of children who did not follow the recommendation for a second kindergarten experience (R_3) scored significantly lower than children who did follow the recommendation (R_1). Children of the R_3 group also scored significantly lower than children who went on into first grade without any recommendation for a second kindergarten experience (R_0). The results of the Tukey Test are significant below the .05 level of confidence. Table 4.5 presents the mean scores for each group.

Since the mean scores of groups R_0 and R_1 are significantly greater than the mean scores of R_3, this confirms Hypothesis 4 that $\bar{X}_{R_0}$, $\bar{X}_{R_1} > \bar{X}_{R_3}$.

Analysis Relevant to Achievement

Analysis of variance was used to compare the four groups in the study with respect to achievement. When there were significant differences between groups, the Tukey-HSD Procedure indicated where those differences were; that is, which groups were significantly different from the others and which were statistically not different from one another or homogeneous subsets. An analysis of variance of the achievement scores with respect to age indicated whether age had significant main effects. Group differences on achievement at the first measurement period are presented in Table 4.6.

Table 4.6 shows that the groups differed significantly on achievement scores at the first measurement period (October 1980). The Tukey-HSD Procedure revealed two

Table 4.4. A Simple Analysis of Variance of Achievement Scores of Three Groups of First Graders Who Did and Did Not Receive a Recommendation for a Second Kindergarten Year.

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	3,556.47	1,842.20	5,398.67
Mean Square	14.70	614.07	
F Ratio		41.78	
F Probability		0.000*	

*Significant below the .05 level.

Table 4.5. Achievement Score Means for Each Group at the End of the Study.

Group	Number	Mean	Standard Deviation
R_0	123	34.11	3.12
R_1	42	34.05	3.64
R_2	48	30.29	4.07
R_3	33	26.48	5.72

homogeneous subsets in which members were statistically not shown to be different. Subset one contained groups R_2 and R_3, and subset two contained groups R_0 and R_1. These two subsets significantly differed below the .05 level. Groups R_0 and R_1 scored significantly higher on the achievement measure than groups R_2 and R_3.

Age was found to have significant main effects. The value of the F-Test was 8.414 with 5, 234 degrees of freedom which is significant below the .05 level.

Table 4.7 shows that the groups differed significantly on achievement scores at the second measurement period (May 1981). The Tukey Test revealed two homogeneous subsets in which members were statistically not different. Subset one contained groups R_2 and R_3, and subset two contained groups R_0 and R_1. These two subsets significantly differed below the .05 level. Groups R_0 and R_1 scored significantly higher on the achievement measure than groups R_2 and R_3.

Age had significant main effects. The value of the F-test was 12.313 with 5, 234 degrees of freedom, which is significant below the .05 level.

Table 4.8 shows that the groups differed significantly on achievement scores at the third measurement period (October 1981). The Tukey Test revealed three homogeneous subsets in which members were not shown to be statistically different. Subset one contained group R_2, subset two contained group R_3, and subset three contained groups R_0 and R_1. These three subsets differed significantly below the

Table 4.6. Simple Main Effect Differences for Achievement Scores at the First Measurement Period (October 1980).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	3,291.44	1,187.13	4,478.57
Mean Square	13.60	395.71	
F Ratio		29.09	
F Probability		0.000*	

*Significant below the .05 level.

Table 4.7. Simple Main Effect Differences for Achievement Scores at the Second Measurement Period (May 1981).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	5,858.38	3,590.79	9,449.17
Mean Square	24.21	1,196.93	
F Ratio		49.44	
F Probability		0.000*	

*Significant below the .05 level.

.05 level. Groups R_0 and R_1 scored significantly higher on the achievement measure than group R_3. Group R_3 scored significantly higher than group R_2.

Age was found to have a significant influence on the achievement scores for the October 1981 measurement period. The value of the F-test was 14.977 with 5, 234 degrees of freedom, which is significant below the .05 level.

Table 4.9 shows that the groups differed significantly on achievement scores at the fourth measurement period (May 1982). The Tukey Test revealed three homogeneous subsets in which members were not shown to be statistically different. Subset one contained group R_3, subset two contained group R_2, and subset three contained groups R_0 and R_1. These three subsets significantly differed below the .05 level. Groups R_0 and R_1 scored significantly higher on the achievement measure than group R_2. Group R_2 scored significantly higher than group R_3, which is consistent with Hypothesis 1 that children who follow the recommendation for a second kindergarten year (R_2) will have greater mean achievement scores than those who do not follow the recommendation (R_3).

Age was found to have a significant influence on the achievement scores for the May 1982 measurement period. The value of the F-test was 4.915 with degrees of freedom of 5, 234, which is significant below the .05 level.

During the second year of the study, group R_2 remained in kindergarten while the other groups went on into first

Table 4.8. Simple Main Effect Differences for Achievement Scores at the Third Measurement Period (October 1981).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	345
Sum of Squares	3,582.43	7,214.78	10,797.21
Mean Square	14.80	2,404.93	
F Ratio		162.43	
F Probability		0.000*	

*Significant below the .05 level.

Table 4.9. Simple Main Effect Differences for Achievement Scores at the Fourth Measurement Period (May 1982).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	3,556.47	1,842.20	5,398.67
Mean Square	14.70	614.07	
F Ratio		41.78	
F Probability		0.000*	

*Significant below the .05 level.

grade. The instrument used to assess achievement of kindergarten children had a different mean than that used to assess first-grade children. So that the groups could be compared, raw scores were converted to standard T scores having a mean of 50 and a standard deviation of 10.

Table 4.10 presents the achievement raw score means for each group throughout the study from which T scores were derived, and Figure 4.1 shows the achievement T scores over time for the four groups. The relative position of all group scores is shown for all four measurement periods.

For each of the four testing sessions, groups R_0 and R_1 had very similar achievement scores and consistently scored significantly higher than either of groups R_2 or R_3. Groups R_2 and R_3, statistically similar for the first and second measurements, significantly differed in the second year of the study for the third and fourth measurements. Group R_2 scored significantly lower than R_3 in October 1981 but sharply increased its score in May 1982 such that the score of group R_2 was significantly greater than that of group R_3.

After observing the sharp increase in group R_2 scores from October 1981 to May 1982, it was decided that a t-test would be administered to determine if the difference between these two scores was significant. The t-test confirmed that the difference in scores was significant below the .05 level of confidence. Statistical data for the t-test are provided in Table 4.11.

Table 4.10. A Comparison of Achievement Raw Score Means and Standard Deviations for Each Group During the Two-Year Study.

Group	Measurement Period			
	October 1980	May 1981	October 1981	May 1982
R_0				
Mean	17.50	26.28	31.96	34.11
Standard Deviation	3.45	4.29	3.33	3.12
R_1				
Mean	18.14	25.93	31.83	34.05
Standard Deviation	3.55	5.24	3.31	3.64
R_2				
Mean	12.79	17.40	18.71	30.29
Standard Deviation	3.96	5.56	3.40	4.07
R_3				
Mean	13.36	19.21	23.94	26.48
Standard Deviation	4.27	5.69	6.23	5.72
Total Means	16.13	23.54	28.28	32.33

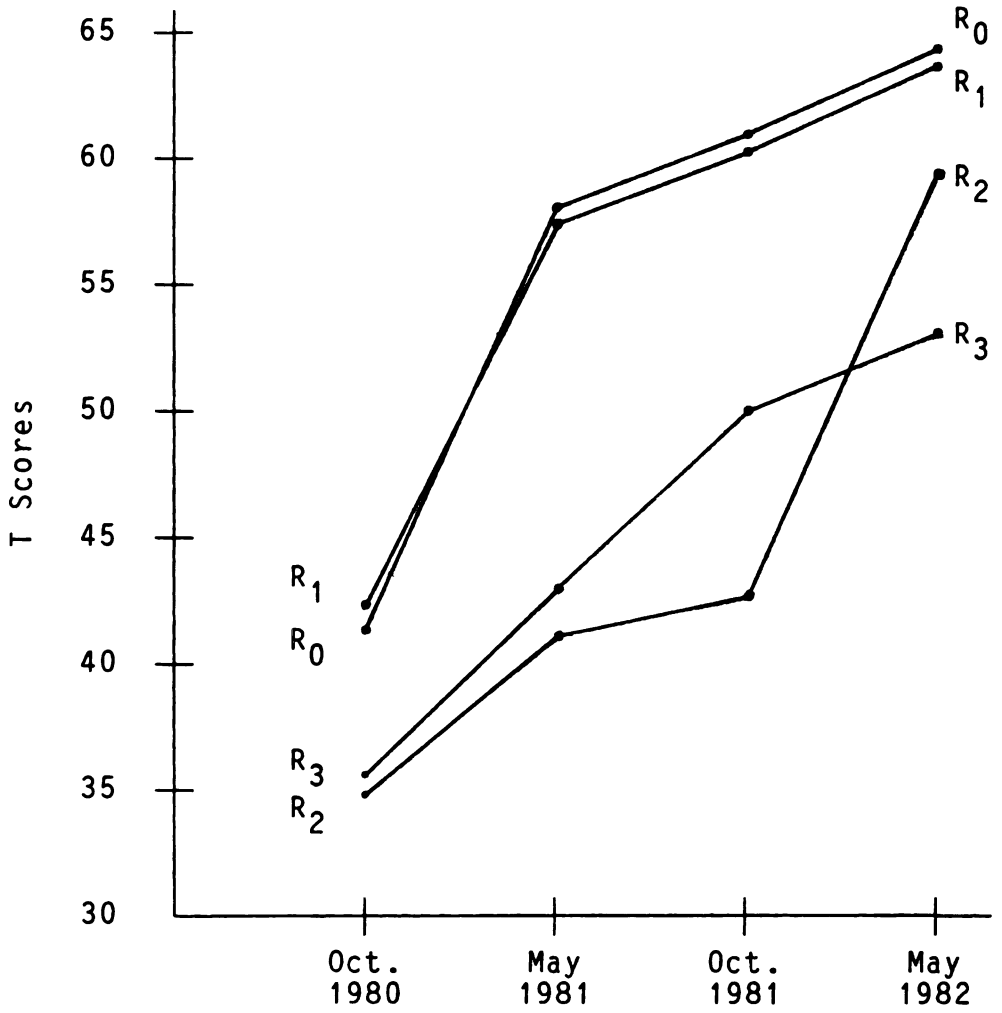

Figure 4.1. Distribution of Achievement T Scores for Each Group Over a Two-Year Period.

Table 4.11. A Comparison of Achievement Scores of Group R_2 from October 1981 and May 1982.

	October 1981		May 1982
Number	48		48
Mean	18.71		30.29
Standard Deviation	3.40		4.07
t		-20.92	
2-tail Probability		0.000*	

*Significant at the .05 level of confidence.

Analysis Relevant to Self-Concept

Analysis of variance was used to compare the four groups in the study with respect to self-concept. When there were significant differences among groups, the Tukey HSD Procedure indicated where those differences were; that is, which groups were significantly different from the others and which were not statistically dissimilar from one another, or homogeneous subsets. An analysis of variance of the self-concept scores with respect to age indicated whether age had significant main effects.

Table 4.12 shows that the groups differed significantly on self-concept scores at the first measurement period (October 1980). The Tukey Test revealed two homogeneous subsets in which members were not statistically shown to be different. Subset one contained groups R_2 and R_3, and subset two contained groups R_0, R_1, and R_3. These two subsets significantly differed below the .05 level. Groups R_0 and R_1 scored significantly higher on the self-concept measure than group R_2. Groups R_0 and R_1 scored higher than R_3, but the difference was not significant. Similarly, R_3 scored higher than R_2, but the difference was not significant.

Age was found to have significant main effects. The value of the F-test was 4.505 with 5, 234 degrees of freedom which is significant at the .05 level of confidence.

Table 4.13 shows that there were no significant differences on self-concept scores among any of the groups at the second measurement period (May 1981). Group means were:

Table 4.12. Simple Main Effect Differences for Self-Concept Scores at the First Measurement Period (October 1980).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	4,733.26	508.20	5,241.46
Mean Square	19.56	169.40	
F Ratio		8.66	
F Probability		0.000*	

*Significant below the .05 level.

Table 4.13. Simple Main Effect Differences for Self-Concept Scores at the Second Measurement Period (May 1981).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	3,413.83	71.37	3,485.20
Mean Square	14.11	23.79	
F Ratio		8.66	
F Probability		0.17	

29.58 (R_2), 29.26 (R_0), 29.02 (R_1), and 29.79 (R_3).

Table 4.14 shows that the groups differed significantly on self-concept scores at the third measurement period (October 1981). The Tukey Test revealed two homogeneous subsets in which members were not shown to be statistically different. Subset one contained group R_2, and subset two contained groups R_0, R_1, and R_3. These two subsets differed significantly below the .05 level. Groups R_0, R_1, and R_3 scored significantly higher on the self-concept measure than group R_2.

Age had a significant influence on self-concept scores for the third measurement period. The value of the F-test was 6.233 with 5, 234 degrees of freedom which is significant below the .05 level.

Table 4.15 shows that the groups differed significantly on self-concept scores at the fourth measurement period (May 1982). The Tukey Test revealed two homogeneous subsets in which members were statistically similar. Subset one contained group R_2, and subset two contained groups R_0, R_1, and R_3. These two subsets differed significantly below the .05 level. Groups R_0, R_1, and R_3 scored significantly higher on the self-concept measure than group R_2.

Age was found to have significant main effects for the May 1982 measurement period. The value of the F-test was 4.962 with 5, 234 degrees of freedom, which is significant below the .05 level.

Table 4.14. Simple Main Effect Differences for Self-Concept Scores at the Third Measurement Period (October 1981).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	6,789.51	6,398.51	13,188.02
Mean Square	28.06	2,132.84	
F Ratio		76.06	
F Probability		0.000*	

*Significant below the .05 level.

Table 4.15. Simple Main Effect Differences for Self-Concept Scores at the Fourth Measurement Period (May 1982).

	Source		Total
	Within Groups	Between Groups	
Degrees of Freedom	242	3	245
Sum of Squares	5,489.36	6,840.97	12,330.33
Mean Square	22.68	2,280.32	
F Ratio		100.53	
F Probability		0.000*	

*Significant below the .05 level.

As with the achievement measure, the instrument used to assess self-concept of kindergarten children had a different mean than that used to assess first-grade children. So that the groups could be compared, raw scores were converted to standard T scores having a mean of 50 and a standard deviation of 10. Table 4.16 presents the self-concept raw score means for each group throughout the two-year study from which T scores were derived, and Figure 4.2 shows the self-concept T scores over time for the four groups. The relative position of all group scores is shown for all four measurement periods.

There were significant differences in self-concept scores in October 1980 with groups R_0 and R_1 scoring significantly higher than R_2. Group R_3 was a member of each of the two homogeneous subsets as shown by the Tukey HSD Procedure and was, therefore, not statistically different from any of the other groups. There were no significant differences among the groups for the May 1981 measurement. In October 1981 and again in May 1982, group R_2 scored significantly lower than all of the other groups which were statistically in the same position as members of the same homogeneous subset. During the second year of the study, groups R_0, R_1, and R_3 greatly increased their mean scores over their first-year scores. Group R_2, however, had its greatest score increase during the first year of the study moving from the least mean score in October 1980 to the greatest in May 1981. The mean score of group R_2 did not

Table 4.16. A Comparison of Self-Concept Raw Score Means and Standard Deviations for Each Group During the Two-Year Study.

Group	Measurement Period			
	October 1980	May 1981	October 1981	May 1982
R_0				
Mean	27.38	29.26	41.38	43.17
Standard Deviation	3.66	3.38	4.92	4.33
R_1				
Mean	27.67	29.02	41.43	42.69
Standard Deviation	3.53	3.56	5.38	3.94
R_2				
Mean	23.88	29.58	28.83	30.00
Standard Deviation	5.81	4.56	3.51	3.71
R_3				
Mean	25.64	27.79	42.88	44.30
Standard Deviation	5.59	4.03	8.05	7.74
Total Means	26.51	29.09	39.14	40.67

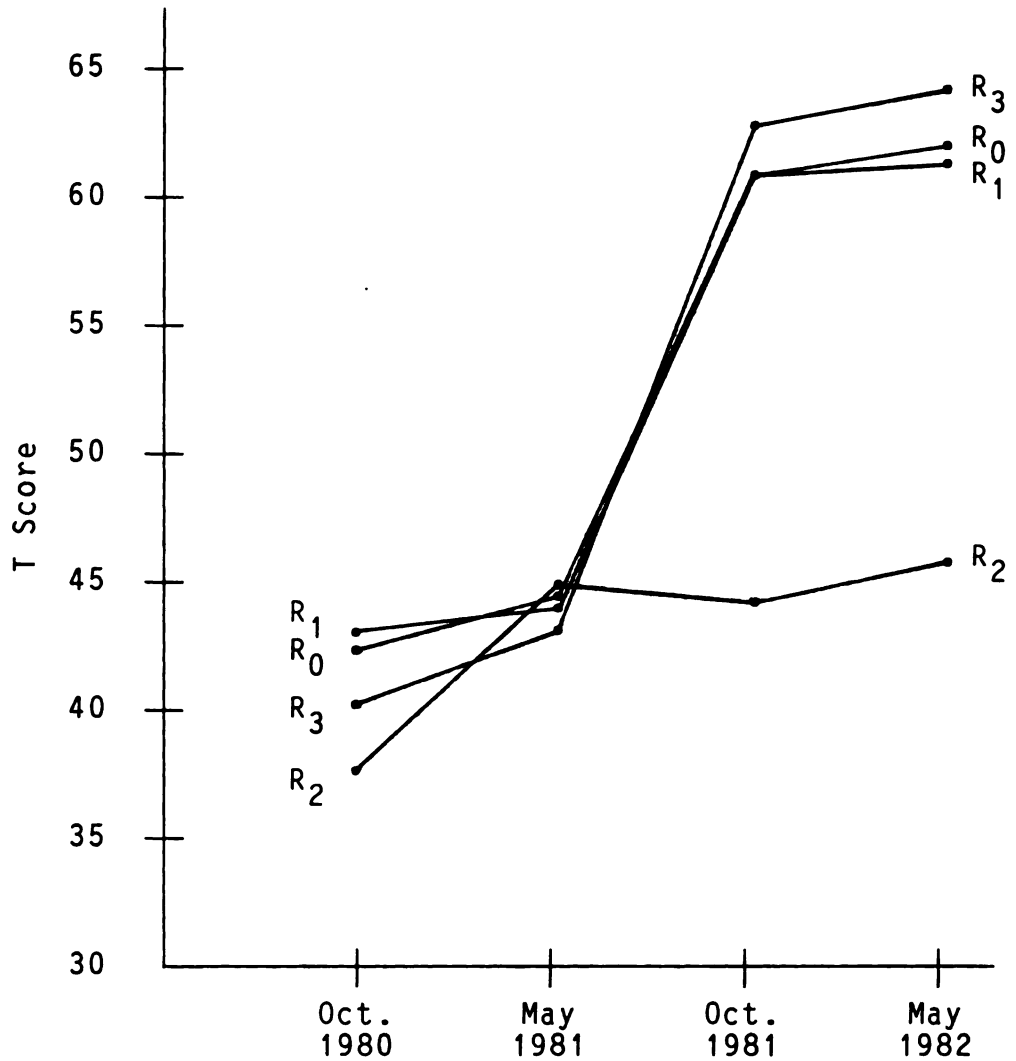

Figure 4.2. Distribution of Self-Concept T Scores for Each Group Over a Two-Year Period.

significantly change from the May 1981 position throughout the second year of the study while each of the other groups did significantly increase their mean scores.

For group R_2, the May 1982 mean self-concept score was greater than the May 1981 score. This was as predicted by Hypothesis 2, that second year kindergarten children will score higher at the end of year two than at the end of year one. Although this was true for group R_2, the difference between the two end-of-year mean scores was not significant.

Analysis Relevant to a Second Year in Grade

Influence of Age

The chronological age in months of all pupils in the sample was recorded at the beginning of the study in October 1980. The mean age of each group is presented in Table 4.17. The children of group R_1 began their schooling in kindergarten an entire year ahead of those in groups R_0, R_2, and R_3. When these three groups entered kindergarten for the first time, group R_1 was beginning its second year in kindergarten and was about a year older than the other groups.

The mean age in months of group R_1 was 72.4, an average of nearly eight months older than those of R_0 at 64.7 months, the oldest of those who began their schooling during the first year of the study and who would receive no recommendation for a second year of kindergarten.

The difference in mean age between the two groups who would repeat their kindergarten experience, R_1 and R_2, was

Table 4.17. Mean Age in Months at First Measurement Period (October 1980) of Each Group.

Group	Number	Mean	Standard Deviation
R_0	123	64.7	3.8
R_1	42	72.4	2.8
R_2	48	60.3	1.7
R_3	33	62.7	3.1

Rable 4.18. Mean Age in Months at First Measurement Period (October 1980) of Those Who Did (R_2 and R_3) and Did Not (R_0) Receive the Recommendation for a Second Kindergarten Year.

	Group	
	R_2 and R_3 Received Recommendation	R_0 Did Not Receive Recommendation
Number	81	123
Mean	61.3	64.7
Standard Deviation	2.7	3.8
Difference in Mean Age	3.4	

twelve months. Considering the year difference in which these two groups began their schooling, the twelve month difference in age makes them virtually identical with respect to the age at which they experienced each year of kindergarten.

At the end of the first year of the study, the forty-two children of group R_1 had completed their second kindergarten year. Some of the remaining 204 children in the sample were at that time given the recommendation for a second kindergarten year (R_2 and R_3). The difference in mean ages between those who received the recommendation, R_2 and R_3, and those who did not, R_0, was 3.4 months. This information is shown in Table 4.18.

Table 4.19 compares the ages of those who did (R_2) and those who did not (R_3) follow the recommendation at the end of year one for a second kindergarten experience. The difference in mean age between these groups was 2.4 months. This shows that those who refused the recommendation and went on into first grade (R_3) were an average of 2.4 months older than those who followed the recommendation for two years of kindergarten.

Those children in grade one who had never experienced a second year of kindergarten were in either of groups R_0 or R_3. These children at the end of year two of the study either received (F_1) or did not receive (F_0) the recommendation for a second year in grade one. The difference in mean

ages between those who did and did not receive the recommendation was 1.5 months. These data are presented in Table 4.20.

At the end of the first year of the study, there were 204 children in the sample who could possibly be considered for a recommendation for a second kindergarten year. The forty-two children in group R_1 had already experienced a second kindergarten year and were therefore excluded from this consideration. The 204 remaining children were grouped according to the recommendation for a second year of kindergarten into groups R_0, R_2, and R_3.

For computational ease, the one month chronological age increments were expanded to three-month increments to produce the data for Table 4.21. This table presents cross tabulation data for age groups versus consideration for a recommended second year. Figure 4.3 was generated from these data and shows that the percentage of children who received recommendations for a second kindergarten experience, shown by the unbroken line, decreased sharply with age from a high of 45.7% for those 58-60 months old to 37% for those 61-63 months old to 11.1% for those 64-66 months old. The decrease continued but not as sharply with 6.2% of those recommended having come from those 67-69 months old. No one receiving a recommendation exceeded sixty-nine months old.

The broken line shows that the percentage of each age group which received a recommendation also decreased consistently with age. A comparison of both lines shows

Table 4.19. Mean Age in Months at First Measurement Period (October 1980) of Those Who Did (R_2) and Did Not (R_3) Follow the Recommendation for a Second Kindergarten Year.

	Group	
	R_2 Followed Recommendation	R_3 Did Not Follow Recommendation
Number	48	33
Mean	60.3	62.7
Standard Deviation	1.7	3.1
Difference in Mean Age	2.4	

Table 4.20. Mean Age in Months at First Measurement Period (October 1980) of Those Who Did (F_1) and Did Not (F_0) Receive a Recommendation for a Second Year of Grade One.

	Group	
	F_1 Received Recommendation	F_0 Did Not Receive Recommendation
Number	34	122
Mean	63.1	64.6
Standard Deviation	3.4	3.8
Difference in Mean Age	1.5	

Table 4.21. Cross Tabulation Data for Age Groups Versus Recommendations for a Second Kindergarten Year.

		No Recommendation Given for a Second Year in Kindergarten	Recommendation Was Given for a Second Year in Kindergarten	Row Total
58-60 Months	N	24	37	61
	Row %	39.3	60.7	29.9
	Column %	19.5	45.7	
	Total %	11.8	18.1	
61-63 Months	N	25	30	55
	Row %	45.5	54.5	27.0
	Column %	20.3	37.0	
	Total %	12.3	14.7	
64-66 Months	N	28	9	37
	Row %	75.7	24.3	18.1
	Column %	22.8	11.1	
	Total %	13.7	4.4	
67-69 Months	N	38	5	43
	Row %	88.4	11.6	21.1
	Column %	30.9	6.2	
	Total %	18.6	2.5	
70-72 Months	N	8	0	8
	Row %	100.0	0	3.9
	Column %	6.5	0	
	Total %	3.9	0	
73-81 Months	N	0	0	0
	Row %	0	0	0
	Column %	0	0	
	Total %	0	0	
	Column Total	123	81	204
		60.3	39.7	100.0

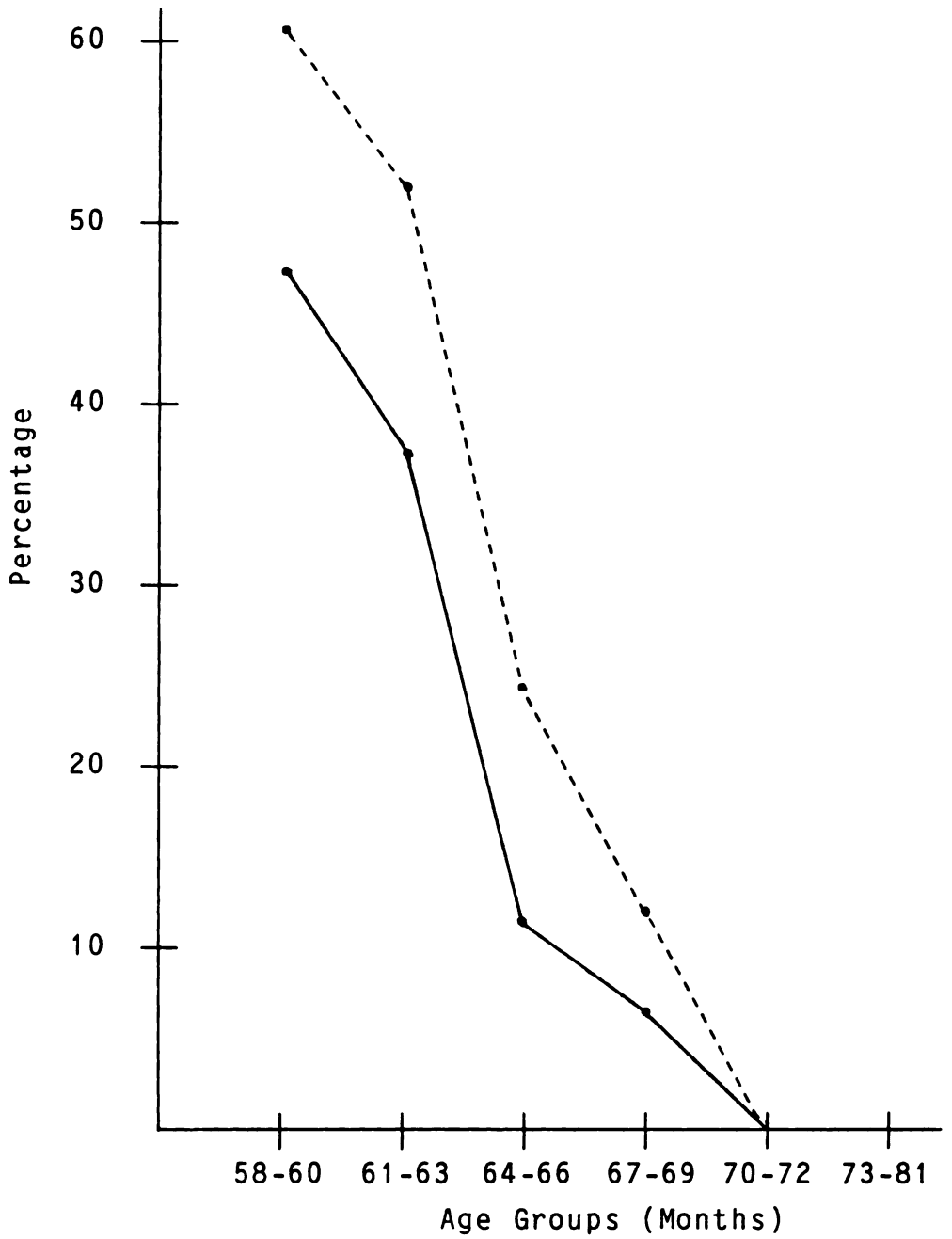

Figure 4.3. A Comparison of the Percentage of Those Recommended for a Second Year of Kindergarten Who Were in Each Age Group (———) with the Percentage of Each Group Who Received a Recommendation (-----).

that of those recommended for a second kindergarten year, 45.7% came from age group 58-60 months but 60.7% of that age group received a recommendation. This separation of the two percentage lines continues with the percentage of each age group recommended exceeding the percentage recommended from each group.

Of the 204 children who could have received a recommendation for a second year of kindergarten (all but those in group R_1), eighty-one or 40% actually received the recommendation. This represented 9.3% of the 873 children in the total population.

Table 4.22 presents cross tabulation data for age groups versus consideration for a recommended second year of grade one. Figure 4.4 was generated from these data and shows that the percentage of children who received recommendations for a second year of grade one (shown by the unbroken line) decreased sharply with age for children sixty-one months or older.

As shown by the broken line, the percentage of each age group recommended did not consistently decrease with age. There were increases in frequency of recommendations from 22.6% at 58-60 months to 32.5% at 62-63 months and from 9.3% at 67-69 months to 12.5% at 70-72 months.

Of the 156 children who could have received a recommendation for a second year in grade one (all those in R_0 and R_3), thirty-four or 22% actually received the recommendation. This represented 3.9% of all the children in the population.

Table 4.22. Cross Tabulation Data for Age Groups Versus Recommendations for a Second Grade One Year.

		No Recommendation Given for a Second Year in Grade One	Recommendation Was Given for a Second Year in Grade One	Row Total
58-60 Months	N	24	7	31
	Row %	77.4	22.6	19.9
	Column %	19.7	20.6	
	Total %	15.4	4.5	
61-63 Months	N	27	13	40
	Row %	67.5	32.5	25.6
	Column %	22.1	38.2	
	Total %	17.3	8.3	
64-66 Months	N	25	9	34
	Row %	73.5	26.5	21.8
	Column %	20.5	26.5	
	Total %	16.0	5.8	
67-69 Months	N	39	4	43
	Row %	90.7	9.3	27.6
	Column %	31.2	11.8	
	Total %	25.0	2.6	
70-72 Months	N	7	1	8
	Row %	87.5	12.5	5.1
	Column %	5.7	2.9	
	Total %	4.5	.6	
73-81 Months	N	0	0	0
	Row %	0	0	0
	Column %	0	0	
	Total %	0	0	
Column Total		122	34	156
		78.2	21.8	100.0

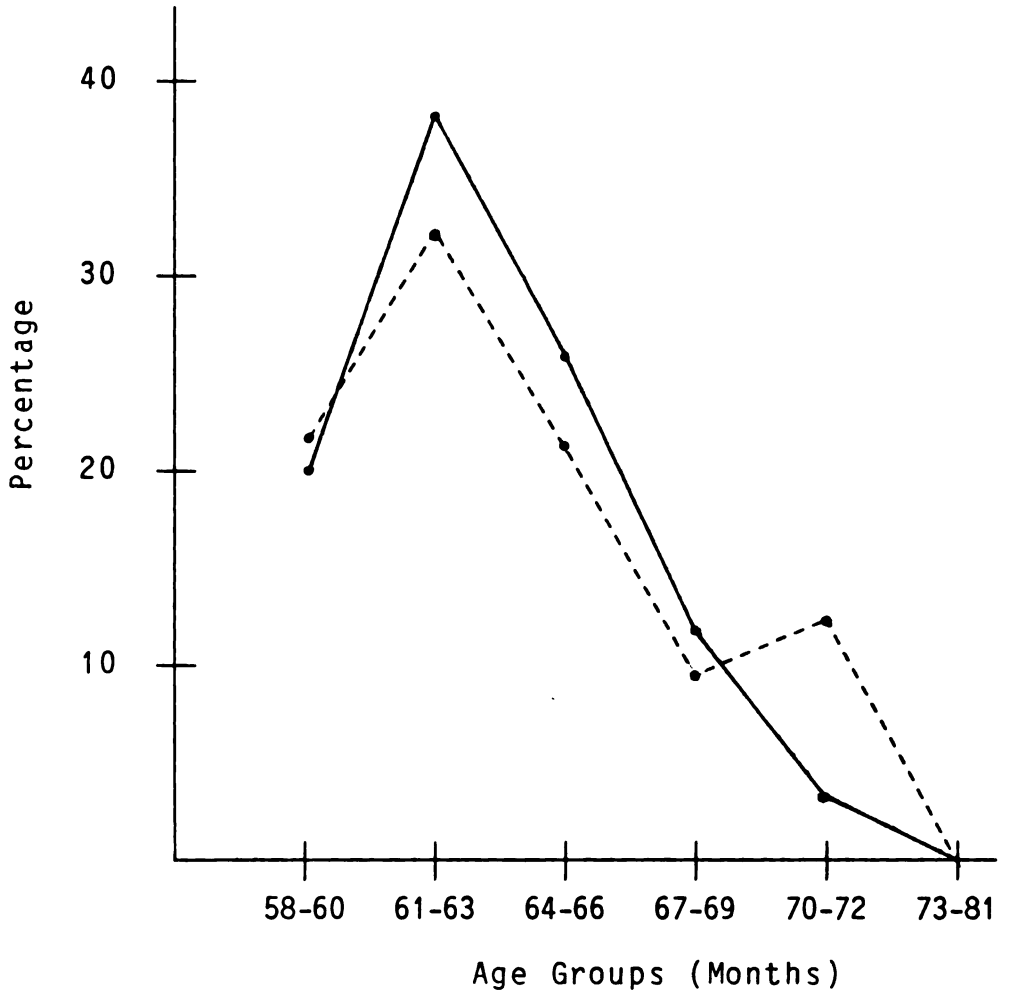

Figure 4.4. A Comparison of the Percentage of Those Recommended for a Second Year of Grade One Who Were in Each Age Group (———) with the Percentage of Each Age Group Who Received a Recommendation for a Second Year of Grade One (-----).

A chi-square test was used to statistically compare the observed frequencies with expected frequencies of recommendations for a second year in grade one for all age groups. The raw chi-square score was calculated as 14.83 with 5 degrees of freedom which is significant below the .05 level of confidence. Age was definitely associated with whether a child was or was not given the recommendation for a second year of first grade.

Influence of Pupil Gender

To determine if pupil gender influenced the distribution of recommendations for a second year of kindergarten, data on all children eligible to receive the recommendation were examined. Since the forty-two children of group R_1 had already experienced a second year of kindergarten, they were excluded from the consideration which took place at the end of the first year of the study. The remaining 204 children from group R_0, R_2, and R_3 were categorized by gender and whether or not they received the recommendation. The data showing actual count and percentages for each subgroup are presented in Table 4.23.

Boys accounted for 51.9% and girls, 48.1% of those who received a recommendation. Also, it can be seen that 41.2% of all the boys and 38.2% of all the girls constituted the group who received a recommendation.

Similarly, of those not receiving a recommendation, 48.8% were boys and 51.2% were girls. Further, 58.8% of all

Table 4.23. Cross Tabulation Data for Pupil Gender Versus Recommendations for a Second Kindergarten Year.

		No Recommendation Given for a Second Year in Kindergarten	Recommendation Was Given for a Second Year in Kindergarten	Row Total
BOYS	N	60	42	102
	Row %	58.8	41.2	50.0
	Column %	48.8	51.9	
	Total %	29.4	20.6	
GIRLS	N	63	39	102
	Row %	61.8	38.2	50.0
	Column %	51.2	48.1	
	Total %	30.9	19.1	
Column Total		123	81	204
		60.3	39.7	100.0

the boys and 61.8% of all the girls were grouped together to form those who did not receive the recommendation. Pupil gender was not found to be associated with whether a child was or was not given the recommendation for a second kindergarten experience.

To determine if pupil gender influenced the distribution of recommendations for a second year of grade one, data from those groups who could be considered for the recommendation were examined. Only children from groups R_0 and R_3 could be considered as the other children were either in a group still in kindergarten (R_2) or were in a group which had already experienced a second year in grade one (R_1). The 156 children of groups R_0 and R_3 were categorized by gender and whether or not they received the recommendation. The data showing actual count and percentages for each subgroup are presented in Table 4.24.

Boys accounted for 47.1% and girls accounted for 52.9% of those who received a recommendation. Also, it can be seen that 21.1% of all boys and 22.5% of all girls constituted the group who received a recommendation.

Similarly, of those not receiving a recommendation, 49.2% were boys and 50.8% were girls. Also, 78.9% of all the boys and 77.5% of all the girls were grouped together to form those who did not receive the recommendation.

Pupil gender was not found to be associated with whether a child was or was not given the recommendation for a second experience in grade one.

Table 4.24. Cross Tabulation Data for Pupil Gender Versus Recommendations for a Second Year of Grade One.

		No Recommendation Given for a Second Year in Grade One	Recommendation Was Given for a Second Year in Grade One	Row Total
BOYS	N	60	16	76
	Row %	78.9	21.1	48.7
	Column %	49.2	47.1	
	Total %	38.5	10.3	
GIRLS	N	62	18	80
	Row %	77.5	22.5	51.3
	Column %	50.8	52.9	
	Total %	39.7	11.5	
Column Total		122	34	156
		78.2	21.8	100.0

Summary

The purpose of this study was to examine the achievement in listening comprehension and self-concept of children who were recommended for a second year of kindergarten with those who were not. Based on teacher assessment of readiness for first grade, teachers made recommendations that some children experience a second year of kindergarten.

Would a second year in kindergarten have a positive effect on achievement? To answer this, achievement scores of those who had a second kindergarten year were compared with those of pupils who went on into first grade in spite of the recommendation to have another kindergarten year. A t-test determined that the difference in achievement scores was significant. Those having a recommended two years of kindergarten out performed children who did not experience the recommended second year.

Would a second year in kindergarten have a detrimental effect on the self-concept? To answer this question, data on those who experienced two years in kindergarten were examined. Scores on the self-concept measures from the end of years one and two of the study were compared by means of a t-test. Significant differences were found showing an increase in self-concept scores from one year to the next. A second year of kindergarten, when recommended, was not found to have a harmful effect on self-concept.

Would those who did not experience the recommended second year of kindergarten receive more recommendations for

another year of grade one than the other children in grade one? Chi-square was used to test the difference between the number of recommendations for a second grade one experience received by those who did and did not receive a recommendation for a second kindergarten year. The chi-square results were significant. Those who received but did not follow the recommendation for a second kindergarten year received significantly more recommendations for another year in grade one than those who received no recommendation for a second kindergarten experience.

Would those who experienced the recommended second year "catch up" academically with their peers who went on to first grade with just one year of kindergarten? A one-way analysis of variance was used to compare achievement scores of three groups: those who received and followed the recommendation for a second kindergarten year, those who received but did not follow it, and those who did not receive the recommendation at all. There was no statistically significant difference in the achievement scores of those who received and followed the recommendation and those who never received that recommendation. The achievement scores of those who received but did not follow the recommendation were significantly lower than either of the other groups. Children who had the additional kindergarten experience matched or out performed those who did not have the additional experience.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the study and presents the findings, conclusions, and recommendations. The chapter is divided into four major topics: (1) Summary of the Study, (2) Findings, (3) Conclusions, and (4) Recommendations.

Summary of the Study

The problem with which this study was concerned was whether the repetition of kindergarten has detrimental effects on either the later academic progress or on the image developed about one's sense of adequacy. Specifically, it sought to determine whether a second year of kindergarten, when recommended, would be beneficial in terms of academic achievement without adversely affecting self-concept.

The study was conducted in six Department of Defense elementary schools in the Kaiserslautern area of West Germany on American children of US military personnel. In the first year of the study, the sample comprised all 873 children from the thirty-four sessions of kindergarten in the area. The second year of the study was concerned with those who remained in kindergarten for another year, those

who had already experienced a second year of kindergarten and were then in first grade, those who were recommended by their teachers for a second kindergarten year but despite that recommendation went into first grade, and those who went into first grade without the recommendation for another year in grade. Of the 246 pupils composing the four groups, 123 received a recommendation for a second kindergarten year and 123 did not.

The children's achievement was measured by levels A, B, and C of a listening comprehension instrument, Listen to the Story, published by Addison-Wesley. Self-concept was measured by the Preschool/Kindergarten and Early Elementary forms of SCAMIN, an instrument designed to assess the self-concept of pupils aged four through eight years old. Assessments of achievement and self-concept were made in October and May of school years 1980/81 and 1981/82.

Data from these two instruments along with data concerning age, gender, sample group, and whether teacher recommendation was given for a second year in grade one were examined by a one-way analysis of variance design.

Table 5.1 presents a tabular description of the four groups in the study for ease of reference throughout this chapter.

Findings

A summary of the findings derived from the analysis of data is presented below under the following headings:

Table 5.1. A Description of the Four Groups in the Study.

Group	Description	Number		
		Boys	Girls	Total
R_0	Children who went into first grade with no recommendation for a second kindergarten year.	60	63	123
R_1	Children who followed the recommendation for a second kindergarten year. Their second year occurred during year one of this study.	22	20	42
R_2	Children who followed the recommendation for a second kindergarten year. Their second year occurred during year two of this study.	26	22	48
R_3	Children who did not follow the recommendation for a second kindergarten year but went on into first grade.	16	17	33

(1) Hypotheses, (2) Achievement, (3) Self-Concept, and (4) Age.

Hypotheses

(1) R_1 scored significantly higher than R_3 on Listening, the measure used to assess achievement at the end of grade one.

This confirmed Hypothesis 1 that at the end of first grade those having spent a recommended second year in kindergarten would score higher on the achievement measure than those who did not follow the recommendation.

(2) Self-concept scores for R_1, as measured by SCAMIN, were significantly greater at the end of year two of the study than at the end of year one.

This confirmed the second hypothesis that self-concept would not decrease after a second experience in kindergarten.

(3) The percentage of recommendations for a second year of grade one was greater for R_3 than for R_0.

This confirmed Hypothesis 3 that there would be more recommendations to experience another first grade year for those who had not followed a similar recommendation for a second kindergarten year than for those who never received a recommendation at all.

(4) The achievement scores at the end of grade one were greater for R_0 and R_1 than for R_3.

This confirmed Hypothesis 4 that the achievement scores of those who had a second year of kindergarten would be closer to those who went into first grade without a recommendation than would the scores of those who went into first grade in spite of a recommendation for another kindergarten year.

Achievement

(1) There were no significant differences on any of the achievement measures between groups R_0 and R_1, those who did not receive a recommendation and those who received and followed the recommendation for a second year in kindergarten. These two groups were virtually identical in their scores throughout the two years of the study.

(2) The performance of R_1 in its second year of kindergarten was similar to that of R_0 in its first year of kindergarten.

The similarity is notable as shown by the mean achievement scores in year one for R_1 of 18.1 and 26.0 and for R_0 of 17.5 and 26.3.

(3) The performance of R_2 in its repeated year was similar to that of R_1 in its repeated year.

Another interesting similarity is evident here with mean achievement scores in the repeated year for R_2 of 18.7 and 30.3 and for R_1 of 18.1 and 26.0. Scores for the two groups at the first and second

measurement periods differed by only .6 and 4.3, respectively.

(4) There were no significant differences in achievement scores for R_2 and R_3 during the first year of the study. But significant differences were evident during the second year with the sharp rise of R_2 from a score significantly less than that of R_3 in October 1981 to a score significantly greater than that of R_3 in May 1982.

(5) Achievement scores of R_0 and R_1, virtually itentical, were significantly greater than those of either R_2 or R_3 during the first year of the study and also through the second year.

Self-Concept

(1) There were no significant differences between self-concept scores for groups R_0, R_1, or R_3 at any of the measurement periods throughout the study.

(2) At the first measurement period, group R_2 scored significantly lower than either R_0 or R_1.

(3) At the second measurement period, there were no significant differences between any of the groups.

(4) During the second year of the study, self-concept scores for group R_2 were significantly lower than those of each of the other groups.

(5) The repeated year scores of groups R_1 and R_2 were notably similar to the first year scores of R_0.

The similarity in repeated year scores is striking. The two groups which had an additional year in kindergarten were nearly identical with scores of 27.7 and 29.0 for R_1 and 28.8 and 30.0 for R_2. There was a difference of only 1.1 at the beginning of the repeated year and 1.0 at the end of the repeated year.

Age

(1) Those who received a recommendation for a second year in kindergarten were 3.4 months younger than those who did not receive a recommendation.

(2) Those who received a recommendation for another year of first grade were 1.5 months younger than those who did not receive a recommendation.

(3) Age had a significant influence on the achievement scores for each measurement period.

The mean ages in months of the sample grouped according to recommendations for a second kindergarten experience were 64.7, 72.4, 60.3, and 62.7 for groups R_0, R_1, R_2, and R_3 respectively.

Although there were no significant differences in achievement or self-concept scores for R_0 and R_1 throughout the study, the difference in their ages was 7.7 months. R_1 was about two-thirds of a year older than R_0.

The difference in ages between R_2 and R_3, the two groups recommended at the end of year one of the

study for another kindergarten experience, was 2.4 months.

The mean difference in ages between those who were (R_2 and R_3) and were not (R_0) recommended for another kindergarten experience was 3.4 months. Those in R_2 were 4.4 months younger, and those in R_3 were 2.0 months younger than those who went into first grade with no recommendation.

Those who were recommended for another year in grade one were 1.5 months younger than those who were not.

(4) Age had a significant influence on the self-concept scores for the first, third, and fourth measurement periods.

Where age was shown to have an effect on the scores, the significant score differences were between R_2 and the other groups. Comparing the score similarities for the first and second and then the third and fourth measurement periods, the most prominent feature evident is that the profile of scores appears to follow a pattern associated with grade level rather than age level.

Conclusions

Is it a good idea for some children to have two years of kindergarten? Would it be better for the child to go on into first grade rather than spend an additional year in

kindergarten? These are questions many parents might ask when their child's teacher speaks with them concerning the possibility of a delayed entry into first grade.

Studies have shown that estimations by kindergarten teachers of academic success in first grade are at least as good as (Smith 1968; Trachtman 1958) or better than (Glazzard 1975; Sbordone 1976) readiness tests or achievement tests for predicting academic success in first grade. A child identified as less than likely to meet with success in first grade would, as shown by the results of this study, achieve less in grade one without a second year of kindergarten than if a second year was experienced. The additional kindergarten year made it possible for a group of kindergarten repeaters to achieve virtually identical achievement scores throughout their second year of kindergarten and then their first grade year to those of children who went into first grade with only one year of kindergarten. The extra year seemed to assist by allowing time for them to match academically those who had just one year in kindergarten. Had they not experienced the second year, it is believed that their achievement would have been significantly lower, and first grade success would have been far less likely as evidenced by the greater percentage of recommendations for a second grade one experience than for others in their grade.

With respect to achievement, then, a second year in kindergarten, when recommended, would appear to be

advisable. With respect to self-concept, though, would the same be true? Or, on the other hand, would children be better off in their self-concept development if allowed to proceed with their peers into the next grade?

Children who remained in kindergarten for a second year had scores on the self-concept measure which remained stable. Their self-image did not decrease, but it also did not increase as that of others of their class who went into first grade with or without a recommendation for additional kindergarten. It could be said, then, that self-concept development did suffer since it did not increase as did the self-concept of all others from their class who went into first grade.

If it is judged that the repeated year had some sort of shock effect on self-concept development, then it might also be judged that the effect might last only during the repeated year since the repeated year scores of groups R_1 and R_2 are remarkably similar. Rather than being detrimental, such stability in self-concept development may only be typical of the way children behave at this stage of their development. The distribution of self-concept scores (Figure 4.2, p. 49) helps to illustrate this point. The most prominent feature of the profile of scores from the first through the last measurement periods is that score ranges adhere to a pattern of grade level rather than age level. It appears that the major factor influencing self-concept scores is associated with grade level. The characteristic

to behave as the rest of the group behaves, i.e., score as the rest of the group scores, may actually be the dominant factor affecting the distribution of scores.

For very young children, self-concept is in large part a personal assessment of how well one fits in with others in the same group (Gordon 1971). A stable score in the second year of the grade would indicate, it is believed, that the children repeating look upon themselves as typical members of the group called kindergarteners and not the subgroup called kindergarten repeaters. Their scores are typical of the entire kindergarten group, whether in the first or second year of kindergarten. Probably their scores would resemble those of the first-grade group if they had gone into grade one right away, and probably their scores will, it is conjectured, resemble those of others in first grade when they actually do experience grade one.

It remains to be seen whether self-concept in later years of schooling shows signs of having been exposed to a recommended second year of kindergarten. If later group differences do become significant, it is conjectured that those who were more at ease with the curriculum and felt more similar to their social peers would more likely develop a more positive sense of personal adequacy than those who struggled in their school learning and felt to some degree apart from their peers. As it would with respect to achievement, then, a recommended second year of kindergarten would appear to be advisable with respect to self-concept.

Recommendations

This research has led to the consideration of a number of other research topics which could yield important data for educators.

(1) Because the self-concept scores were arrayed to form a pattern with major increases between school years and minor increases throughout the course of the year and thus related to grade level changes, studies concerned with the profile of self-concept development from year to year could determine if a given profile is associated with a given assessment instrument.

(2) A study similar to the present study but covering the entire elementary career of those in each group would provide valuable data concerning the effects of a second year in a variety of grades on the achievement and self-concept of the same sample groups. Such research questions as the following could be addressed:

   (a) How are achievement and self-concept affected by an eventual second year in grade for those who rejected the opportunity for a second year in kindergarten?

   (b) Do the achievement and self-concept of those who experienced a second kindergarten year remain equivalent in later grades to those who received no recommendation for addition kindergarten?

(3) A similar study conducted with state or federal funding assistance should include a much larger sample with

significant representation from a variety of minorities; urban, suburban, and rural localities; and high, middle, and low socioeconomic strata.

(5) Future research should determine the relationship between developmental age and a repeated year. As the various groups in this study are distinguished by the recommendation for a second year of kindergarten and their response to that recommendation, are the groups distinguished in the same manner by developmental age? To what extent does developmental age correlate with the recommendation for a second year in grade?

Reflections

Kindergarten is the most advantageous level at which to have a child experience an additional year. The results from the great body of research performed on retention in grade indicate that for grades one through high school, academic problems are not best remedied by a second year in grade. The self-concept suffers in normal development as well. However, this is not the case with the experience of a second year of kindergarten. During that year, the child continues to grow and learn without the harmful pressures associated with the demanding rigors of the graded curriculum. The child is not merely given a second chance to do better but is afforded the opportunity for successful achievement when developmentally ready to engage in the graded curriculum.

It is suggested that teachers and administrators view kindergarten as the most appropriate level at which to recommend a second year in grade when deemed necessary. Significant achievement gains without harmful effects to the self-concept have been shown to occur as a result of a recommended additional year in kindergarten.

APPENDIX

SAMPLE FORMS FOR KINDERGARTEN AND FIRST GRADE TEACHERS

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SAMPLE FORMS FOR KINDERGARTEN AND FIRST GRADE TEACHERS

Below is a sample form given in May 1981 to kindergarten teachers to determine who was given a recommendation for another year in kindergarten.

Please indicate with a check mark (✓) which children, if any, you have recommended for a second year in kindergarten.

	NAME	RECOMMENDED FOR A SECOND YEAR IN KINDERGARTEN
1.		____
2.		____
3.	Class list duplicated here	____
.		.
.		.
.		.
n.		____

Below is a sample form given in May 1982 to first-grade teachers to determine who was given a recommendation for another year in first grade.

Please indicate with a check mark (✓) which children, if any, you have recommended for a second year in first grade.

	NAME	RECOMMENDED FOR A SECOND YEAR IN FIRST GRADE
1.		_____
2.		_____
3.		_____
.		.
.		.
.		.
n.		_____

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BIBLIOGRAPHY

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