THE KINDERGARTEN: THE INTERRELATIONSHIPS OF

SELF-CONCEPT, LANGUAGE AGE, READINESS,

SOCIO-ECONOMIC STATUS, SEX, FAMILY

SIZE AND ACHIEVEMENT

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VERNA M. PETERSON B.S., M. ED.

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We hereby recommend that the   dissertation   prepared under

our supervision by ___Verna M. Peterson_____

entitled THE KINDERGARTEN: THE INTERRELATIONSHIPS OF

SELF-CONCEPT, LANGUAGE AGE, READINESS, SOCIO-

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be accepted as fulfilling this part of the requirements for the Degree of

DOCTOR OF EDUCATION

Committee:

~~signature~~
Chairman

~~Rose Spicola~~

~~Clifton J. Sparks~~

~~Bill Bryant~~

~~signature~~

Accepted:

~~Mary Evelyn Huey~~
Dean of Graduate Studies

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CHAPTER 1

INTRODUCTION

The literature points out that there are many
correlates to achievement. Some of these are believed to
be self-concept, language development, experiential back-
ground, socio-economic status, sex, and family size. No
single variable can be assumed to be the cause of a lack of
achievement without consideration of other variables.

Modern psychological theory ascribes a crucial
role to the child's perceptions of self and the world
about him as causative agents of behavior. Both Wylie
(1961) and Coopersmith (1967) feel that the basic founda-
tion of a person's self-concept is formed in early child-
hood, and once established the individual strives to
maintain his basic self-concept.

Since 1960 an extensive amount of research has
indicated that students' performance and success in school
are directly related to how students perceive themselves.
Brookover (1967) concluded that to assume that human
ability as the most important factor in achievement is
questionable, and that students' attitudes limit the level
of achievement in school.

Children with a favorable self-concept display

achievement consistent with their apparent ability. They believe they are capable of learning and have confidence in their ability. Although not all high achievers possess favorable self-concepts, studies have demonstrated a positive correlation between measures of achievement and self-concept. (Fink, 1962).

Much of the child's ability to learn is determined by his self-concept and the way in which he uses language. In developing language facility, children need both verbal and nonverbal communication with adults. Nonverbal communication is more prevalent among children from homes where language is not an important form of communication than among children whose environment has a rich language orientation.

Children from low socio-economic groups, when compared with children from higher socio-economic levels, live in an environment which contributes to (1) underdeveloped expressive and receptive language skills which negatively affect their school achievement, (2) an inadequate self-image, and (3) a lack of conventional manners and social amenities acceptable to his middle class teachers. (Olson and Larson, 1965).

Although several investigators have studied the relationship of self-concept to achievement and language age to achievement, no single study has focused upon the assessment of self-concept, language age, readiness,

socio-economic status, sex and family size to determine
what relationships and interrelationships exist between
the variables of this study.

Statement of the Problem

The problem of this study was (1) to determine
the relationship between self-concept, language age,
readiness, socio-economic status, sex, and family size of
a random sample of kindergarten subjects; (2) to determine
what interrelationships exist between each of the variables--
self-concept, language age, readiness, socio-economic
status, sex, and family size; and (3) to compare the
children's achievement, as measured by the Stanford Early
School Achievement Test, Level I, to self-concept, language
age, and readiness.

Rationale of the Study

The critical age and developmental periods are
during the first very few years of life. (Bloom, Davis
and Hess, 1965; McNeil, 1970; Yamamoto, 1972). As early
as two months of age, highly significant differences are
found in all phases of speech. (Irwin, 1948). Similar
variability exists for almost any dimension of behavior.

Evidence from research supports the theory that
the development of language and thought processes are
closely related. (Vygotsky, 1962; Piaget, 1955; Bernstein,

1958, 1959). Vygotsky (1962) believes that language structures the thought processes; Piaget and Inhelder (1969) believe that language is not the source of logic, but is structured by it.

Several investigators have observed differences in cognitive functioning of the disadvantaged. Children from disadvantaged backgrounds, when compared with middle-class children, are less able to use standard English in interpreting and expressing their feelings and experiences.

Deutsch (1963) found the disadvantaged to be generally inferior in abstract thinking. According to Gordon (1964), this probably limits the child's ability to make accurate generalizations. The poor level of abstract thinking in the disadvantaged may be due to the late acquisition of certain elements of language which are necessary in order to make the transition from concrete to abstract.

It is believed that in the formation of the self-concept, the first year of one's life is the most important and that the self-concept is fairly well stabilized by the time the child reaches the age of three. (Gillham, 1967). Whether a child's self-concept becomes positively or negatively directed is determined by the kind of care

"significant others" give him. Thorpe (1961) writes:

> If the child's needs are well taken care
> of, if he is loved and made to feel wanted,
> if he feels safe and secure and relatively
> free of stress and tension, then he develops
> a positive self concept. If not, he sees
> himself as unwanted, unworthy, and insecure,
> and develops a negative conception of
> himself. (p. 93).

Substantial evidence indicates that a child's
self-concept and language development are crucial to
achievement in school. Yamamoto elaborates on this idea:

> A language is powerful because it symbolizes
> people's style of life, their accumulated ideas,
> emotions, hopes, and dreams....language allows
> us to 'read' his development, adjust our
> expectations, and arrange an optimal educational
> environment for him. (Yamamoto, 1972, p. 5).

Bloom concluded, from his research

> ...that there was a marked decrease over time
> in the effect of better environment on behavioral
> changes (intelligence, achievement, aggression
> etcetera) in children. (Bloom, 1964, p. 84).

In the search of the literature, no satisfactory
or comprehensive study of kindergarten subjects was found
that attempted to determine the relationships and inter-
relationships between the variables of self-concept,
language age, readiness, socio-economic status, sex,
family size and achievement.

The analysis of the relationships and inter-
relationships between the variables of this study may be
of value to individuals responsible for planning,
implementing and evaluating educational programs. More

specifically, the results of the study may assist teachers in the evaluation of their curriculum for kindergarten.

Purpose

The purpose of this study was to gather empirical data concerning the relationships and interrelationships which exist between self-concept, language age, readiness, socio-economic status, sex, family size, and achievement for kindergarten children.

Hypotheses

The following hypotheses were subjected to statistical analysis significant at the alpha equal to .05.

Ho_1:   There will be no significant difference between pretest and posttest scores of self-concept as measured by the Preschool Self-Concept Picture Test.

Ho_2:   There will be no significant difference between pretest and posttest scores of language age as measured by the Vineland Social Maturity Scale.

Ho_3:   There will be no significant difference between pretest and posttest scores of readiness as measured by the Metropolitan Readiness Tests.

Ho_4-Ho_5:   There will be no relationship between mean

gain scores for self-concept and (a) language age, and (b) readiness.

Ho_6-Ho_8:   There will be no relationship between mean gain scores for self-concept and data for (a) socio-economic status, (b) family size, and (c) sex.

Ho_9 There will be no relationship between mean gain scores for language age and readiness.

Ho_{10}-Ho_{12}:   There will be no relationship between mean gain scores for language age and data for (a) socio-economic status, (b) family size, and (c) sex.

Ho_{13}-Ho_{15}:   There will be no relationship between mean gain scores for readiness and data for (a) socio-economic status, (b) family size, and (c) sex.

Ho_{16}-Ho_{18}:   There will be no relationship between achieve-ment and mean gain scores for (a) self-concept, (b) language age, and (c) readiness.

Summary

The importance of education for kindergarten children has been indicated in the research of literature. Wylie and Coopersmith feel that the basic foundation of a person's self-concept is formed in early childhood.

Brookover concluded that student's self-concept limits the level of success in school. Fink found a positive correlation between achievement and self-concept. Olson and Larson found a high degree of relationship between socio-economic levels, language skills and achievement.

Additional research in this area was necessary to determine the relationships and interrelationships between self-concept, language age, readiness, socio-economic status, sex, and family size of kindergarten subjects and to compare the children's achievement to self-concept, language and readiness.

Order of Presentation

Chapter II presents the review of literature relative to the variables of self-concept, language age, readiness, socio-economic status, family size, sex, and achievement.

Chapter III presents the methods and procedures. It includes subject selection, test instruments and test administration.

Chapter IV consists of the presentation and analysis of the data. A summary completes the chapter.

The writer presents the summary, conclusions and recommendations concerning the study in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature was divided into
four basic areas: (1) that which deals with major findings
relating self-concept to language readiness, socio-economic
status, family size and sex; (2) that which deals with
findings relating language age to readiness, socio-economic
status, family size, and sex; (3) that which covers studies
relating readiness to socio-economic status, family size and
sex; and (4) that which covers studies relating achievement
to self-concept, language age, and readiness. Major
emphasis was given to studies focusing on kindergarten
subjects.

The Relationship of Self-Concept to Language Age, Readiness, Socio-Economic Status, Family Size, and Sex

Educators have become increasingly interested in
the self-concept and the factors that influenced and are
influenced by it as evidence mounts that self-concept is
highly correlated with the development of language. (Spiker,
1956; Irwin, 1960). Templin (1957) identified differences
in sentence length completely used by middle and lower class
children. Counts of "errors" or deviations were reported by

Loban (1963). These studies provided evidence which has led to other studies of language development and of factors in home environments which contribute to poor language development.

Bernstein theorized that the form of social relations, or more generally, the social structure within a group "generates distinctive linguistic codes or forms and these codes essentially transmit the culture and so constrain behavior. (Bernstein, 1968, p. 203,)."

It is through the development of a linguistic medium that the child learns to internalize his structure. Bernstein suggested that children in different social races were orientated toward different linguistic codes which regulate not only their speech but other behavior as well. He identified two linguistic codes: a restricted code; which is available to lower-class children and certain close-knit groups of middle-class children; and the elaborated code which is used by middle- and upper-class people.

Bernsteins' linguistic codes have been misinterpreted in that the users of a restricted code were thought to have a language deficit. He pointed out that the child who is oriented toward a restricted code has the same understandings of his language system as a child using the elaborated code. (Bernstein, 1970). The restricted code directs the child to ways of learning and finding relevance that are not in harmony with those required in school. When

the child is not sensitive to the communication code of the school, he is caught between two radically different systems of communication.

Much of the relative backwardness observed in children from low income areas may be culturally induced by the limitations of a restricted linguistic code. Educators need to recognize the problems involved and plan adjustments in the educational system to respond to the needs of disadvantaged children.

Reviews of the literature of the mid-sixties seem to indicate a general agreement about the shortcomings of the language capabilities of the lower socio-economic children, (Plumer, 1970; Cazden, 1970). Evidence for this is usually gained by contrasting lower-class children with their middle-class counterparts, and interpretations move from such contrasts to generalizations about the appearance of developmental lags in the language of the lower socio-economic child, (Williams, 1970).

Although it may be useful to know that children from lower socio-economic homes exhibit poorer language and cognitive abilities than middle-class children, this knowledge alone can not provide direction for compensatory action. Deutsch and Associates (1967) conducted extensive research in an effort to identify those factors in the deprived environment which contributed to language and cognitive defects found in disadvantaged children.

Along with problems of poor housing and sanitation, crowded living conditions, poor nutrition and restricted experiences, it was postulated that the lower-class home did not provide a verbally orientated environment. The latter was viewed as a causal factor in the poor language ability of the disadvantaged children. (Deutsch, 1967).

Deutsch's characterization of the speech environment in disadvantaged homes was summarized by Ausubel.

> The culturally deprived home, to begin with, lacks the large variety of objects, utensils, toys, picture, etc., that require labeling and serve as references for language acquisition in the middle-class home. The culturally deprived child is also not spoken to or read to very much by adults. Hence his auditory discrimination tends to be poor and he receives little corrective feedback regarding his enunciation, pronunciation and grammar. Furthermore, the syntactical model provided him by his parents is typically faulty. Later on, when new concepts and trans-actional terms are largely acquired verbally,i.e., by definition and context from speech and reading, rather than by abstraction from direct concrete experience, he suffers from the paucity of abstractions in the everyday vocabulary of his elders, from the rarity of stimulating conversation in the home, from the relative absence of books, magazines and newspapers, and from the lack of example of a reading adult in the family setting.
> It is small wonder, therefore, that the abstract vocabulary of the culturally deprived child is deficient in range and precision, that his grammar and language usage are shoddy, that his attentivity and memory are poorly developed, and that he is impoverished in such language re-lated knowledge of the physical, geometric, and geographical environments. Social class dif-ferences in language and conceptual measures also tend to increase with increasing age, thus demonstrating the cumulative effects of both continued environmental deprivation and of initial deficit in language development. (Ausubel, 1967,

p. 314).

John and Goldstein summarized their findings:

the child from a lower socioeconomic background
may experience a deficient amount of verbal
interaction. He learns most of his language
by means of receptive exposure-- by hearing,
rather than by the correction of his own active
speech. Words acquired with little corrective
feedback in a stable learning environment will
be of minimum use as mediators, at a later stage
of development. In contrast, the child whose
language acquisition is characterized by active
participation with a more verbally mature individual
not only develops greater verbal proficiency--as
a result of being listened to and corrected--but
also is more likely to rely on, and use effectively,
words as mediators (John and Goldstein, 1967, p.
173).

Reisman also pointed out the error in assuming

that deprived children are inarticulate and suggested that

it is necessary to specify the nature of the language

function and the situations in which children appear to

lack verbal abilities. (Reisman, 1963). Careful observa-

tion indicated that in everyday conversation with family

and peers disadvantaged children

have considerable facility with informal or
public language, and this is expressed best in
unstructured, spontaneous situations; they
verbalize more freely around action and things
they can see; they understand more language
than they speak; their non-verbal forms of
expression are more highly developed; and they
often have imaginative associations with words,
(Reisman, 1962, p. 80).

Studies of the economically deprived have generally

agreed on some of the characteristics of deprivation:

notable, poor language usage, difficulty in the comprehen-

sion of abstraction, poor reasoning skills, poor motor

coordination, deficient auditory discrimination skill,
passivity and a lack of curiosity, short attention spans,
low self-concepts, inadequate social skills, low consistency
in relationships with adults, negative attitudes toward
the school, little motivation for academic achievement, and
low capacity to learn. (Brittain, 1966; Evans, 1971).

Substantial evidence from recent research indicates
that self-concept, achievement, and language development
are related to socio-economic status. (Bernstein, 1958,
1959). Bloom, Davis, and Hess (1965) note that:

> Children from lower-class homes have been
> found to be weak in auditory discrimination and
> visual discrimination at the beginning of school
> ...Lower-class children lack abstract language
> ...words for categories, class names, and non-
> concrete ideas.
> The middle-class family is more likely to make
> use of language in an elaborated way: this
> includes using language to extend ideas, feelings
> and individual ways of expressing oneself.
> In the deprived home, language usage is more
> limited. Much communication is through gestures
> and other non-verbal means. When language is
> used, it is likely to be terse and not necessarily
> grammatically correct. It is likely to be
> restricted in the number of grammatical forms
> which are utilized. (p. 70).

Bernstein (1966) describes the language of the dis-
advantaged as restricted in form, as serving to communicate
signals and directions, and as tending to confine thinking
to a relatively low level of repetitiveness.

The Relationship of Language Age to
Readiness, Socio-Economic
Status, Family Size,
and Sex

Throughout the world, all children learn to use the language of their environment and seem to go through the same stages in their acquisition of language. (Ervin, 1964, Fishbein, 1972). In learning language, the processes are divided into a passive and an active stage. (Church, 1961). By the time the child is four or five, he has mastered the grammar of his language and can produce all the sentence type used by adults. (Menyuk, 1971). Mean length of sentence, frequency of the more complex sentence types, and variety of types used increase as the child matures. (Brown and Belluge, 1964).

An important aspect of language acquisition is that language is not learned in isolation; it can only be acquired through verbal interaction with adults. The child learns the language of his environment.

There is a wide diversity in the methods of programs used to promote language growth. Some programs are based on the idea that language development is firmly rooted in experiences that build meanings for the child. Others seem to equate the repetition of verbal statements with the acquisition of the concept they represent.

The largest program sponsored by the government

was initiated during the summer of 1965. (Osborn, 1968).
Operation Head Start was initially conducted for a period
of four weeks during the summer and later expanded to
include the full academic year prior to the child's entry
into public school. (Evans, 1971). The prime educational
objective of this program for over half a million pre-
school disadvantaged children was to improve the child's
mental processes with particular attention to conceptual
and verbal skills. (Evans, 1971).

Short term evaluations of Head Start programs
indicated that higher IQ scores were achieved by children
in Head Start when compared to those who had not been in
the program. (Wolff and Stein, 1968). A study of the
impact of Head Start was made by Westinghouse Learning
Corporation and Ohio University during the school year
of 1968-69. From one hundred and four Head Start centers
across the country, children who had attended Head Start
were compared with a matched sample of those who had not.
In relation to language development, results of scores on
the ITPA showed that disadvantaged children continued to
fall consistently below the national norms. The major
conclusions from the study were:

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

2. Full-year programs appear to be ineffective as measured by the tests of affective development used in the study, but are marginally effective in producing gains in cognitive development that could be detected in grades one, two, and three. Programs appeared to be of greater effectiveness for certain subgroups of centers notably in mainly Negro centers, in scattered programs in the central cities, and in Southeastern centers.

3. Head Start children, whether from summer or from full-year programs, still appear to be considerably below national norms for the standardized tests of language development and scholastic achievement, while performance on school readiness at grade one approaches the national norm.

4. Parents of Head Start enrollees voiced strong approval of the program and its influence on their children. They reported substantial participation in the activities of the center. (Westinghouse and Ohio, 1973, pp. 402-403).

A recommendation made in the report was that full-day programs be continued with specific emphasis on the development of new techniques for remediation of cognitive and language deficiencies of disadvantaged children. (Westinghouse and Ohio, 1973). Project Follow-Through represents an attempt to develop innovative programs which will help maintain any short-term gains made by children in Head Start. Begun in 1967, there are many diverse programs in operation in the project. Evaluation of these programs should offer guidelines for modifying programs for underprivileged children during their first four years in elementary school. (Maccoby, 1970).

A project conducted in Murfreesboro, Tennessee,
(Gray, et al, 1966) was designed to include many op-
portunities which required the child to use language to
reach a desired goal. Language growth was promoted through
the use of puppets, storytelling, games, and small group
discussions centered around units of study. Language growth
was also promoted through those activities particularly
directed toward development of concepts as the child
learned to label his environment and abstract common
qualities from the objects within it. (Gray, et al, 1966).

To evaluate the project, pretests and posttests
were given each summer. Follow-up tests were administered
at the end of first grade. Instruments used were the
Stanford-Binet, the Wechsler Intelligence Scale for
Children (WISC), the Peabody Picture Vocabulary Test
(PPVT), and the Illinois Test of Psycholinguistic Abilities
(ITPA). Findings were that at the end of the summer
program prior to entry into public school, the first
experimental group showed a gain of nine IQ points and
the second group a gain of five points. The local control
group had lost three points and the control group in another
city had lost six points. (Gray, et al, 1966).

During the first year in public school, the three
groups in the main city moved closer together. Differences
were still significant on the Binet and WISC, but not on

the language measures. The local control group was not significantly different on first grade measures of achievement. The control group in the other city had not shown comparable progress. (Gray and Klaus, 1968).

In a seven-year follow-up study, Gray and Klaus (1970) reported that differences in intelligence scores of the experimental and control groups were still significant three years after intervention stopped, although both groups showed a decline after first grade. No significant differences in language scores were found at this time.

The Early School Admissions Program in Baltimore, Maryland, initiated in 1962, was centered around such subject areas as art, music, literature, and science. Like other preschool programs, the Early School Admissions Program focused on language skills and provided constant practice in listening and speaking.

It was found that the children who were enrolled in the Early School Admissions project "have greater verbal ability, seem to score better on readiness test, and make a better start in reading. (Frost, 1966, p. 203)."

Blank and Solomon (1968) report on a study made to determine the effectiveness of a one-to-one tutorial language program in developing abstract thinking in

disadvantaged preschool children. Like Gray and Klaus, they felt that mere exposure to an enriched environment would not necessarily overcome the language and cognitive deficits for these children. Rather, they felt that the child must be actively involved with the stimuli and guided to organize his thoughts, reflect upon situations, choose among alternates, and give verbal expression to his understandings. One of the most glaring deficiencies of deprived children seemed to be "the lack of a symbolic system by which to organize the plentiful stimulation surrounding them (Blank and Solomon, 1968, p. 380)."

The subjects for the study were twenty-two nursery school children from a deprived area in New York City. They were tested on the Stanford-Binet Intelligence Test and the Leiter Scale. Test results were used to divide the children into four groups, two tutored and two untutored, matched as closely as possible according to age, sex, and IQ. Children in the first tutored group received individual tutoring for 15-20 minutes five days a week. Those in the second tutored group received the same training three times a week. The third group had individual sessions each day with the teacher. They were allowed to manipulate and talk about the materials used in tutoring, but no instruction was included. The fourth group of children remained in the regular classroom with no

additional attention.

The tutoring was done during a short period when the child was taken from his class to another familiar room. The experiment lasted four months after which the children were retested.

At the conclusion of four months, the posttest was administered. The results showed an increase in mean IQ of 14.5 points for the first tutored group and 7.0 points for the second tutored group. For the un-tutored groups 1 and 2, the changes were 2.0 and 1.3 respectively. The changes were found to be significant.

In a study conducted by Templin (1957) in which language samples of 408 subjects were analyzed, it was found that the upper socio-economic status groups used longer responses at every age level tested than the lower socio-economic status groups. Lower socio-economic group children showed a mean of 5.6 words per remark and the middle-class showed a mean of 6.9 words per remark.

In contrast, Deutsch and Cherry-Persach (1966) analyzed the expressive and comprehensive language patterns of children of varying social backgrounds and found speech productivity and sentence length were unrelated to either social class level or ethnic background.

The Relationship of Readiness to Socio-economic
Status, Family Size, and Sex

There are several theoretical arguments that may justify pre-primary education as a basis for raising the intellectual level and academic achievement of low-income children. One such argument is based on Piaget's studies of intellectual development done over the past several decades. He sees the child's intellectual development occurring as he passes through a series of stages. "At each stage the child interacts with his environment, through the processes of assimilation and accommodation, bringing new ideas into his developing intellectual schema (Frost, 1966, p. 184)."

Another argument is based on Bloom's recent study of human development. He states that:

> Even general achievement is half developed by grade three and that in order for environmental manipulation to have its greatest impact in the area of intelligence, it ought to occur during the preschool years. (Strom, 1965, p.17).

Bloom also adds that:

> The difference between a very favorable environment may affect intellectual development each year in the first four of a child's life by about 2.5 I.Q. points over a four-year period. (Ibid.)

The obvious purpose of a preschool program is to provide for the individual needs of the child. Strom (1965) stated that each year large numbers of low socio-

economic children enter first grade across the country
with deficiencies that either hinder or make learning
impossible.

Many curriculum innovations have been offered by
those in the field of preschool education (Sprigle, Van
de Riet and Van de Riet, 1967; Deutsch, 1969; Klaus and
Gray, 1965). Dr. Martin Deutsch of the Institute for
Developmental Studies in New York developed one of the
first experimental enrichment programs for low-income
preschool children which concentrates on offering
experiences involving spatial organization, manipulation,
auditory and visual discrimination. Deutsch also
employed some Montessori techniques in his program to
teach quantitative and spatial concepts.

Concerning Deutsch's program, Butler states:

> Tentative results suggest that continuous
> and carefully planned intervention procedures
> can have a substantially positive influence on
> the performance of disadvantaged children and
> can avoid the cumulative failure all to fre-
> quently found. (Butler, 1970, p. 44).

Sprigle, Van de Riet & Van de Riet (1967) developed
an experimental curriculum for underprivileged children
based on Piaget's theory of learning.

> The curriculum included a series of develop-
> mental tasks that would emphasize manipulating,
> organizing, classifying, and ordering things that
> lead to internalized thought and effective verbal
> expression. Subjects were five-year-old Southern
> Negro children. They were divided into three

groups: an experimental group, which received
one school year of the sequential learning
curriculum; a kindergarten control group, which
received the traditional type nursery-kindergarten
curriculum; and, an at-home control group, which
received only the pre-and posttesting. Results
showed that the mean IQ for the experimental
group had increased 14 points, while that of the
kindergarten group remained unchanged and the mean
IQ of the home group had decreased by about 7
points. (Hartup, 1967, p. 265).

Gray and Klaus (1965) reported similar results on

IQ gains. IQ gains of 5 and 6 points (on the Stanford-

Binet and the Wechsler Intelligence Scale for Children)

in two treatment groups and losses of 4 and 6 points in

two control groups were initially reported by Gray and

Klaus in their Peabody Early Training Project near Nash-

ville. This project involved a population of 61 children

from low-income parents who were randomly assigned to

four groups. Two of these groups entered the intervention

program. One group entered three years before first

grade, and the other group entered two years before first

grade. The other two groups were designated as control

groups and did not enter the intervention program.

Preschool children who entered the intervention

program achieved more than the control group on measures of

reading readiness.

Recently (1970) Butler writes about the Early

Training Project:

The impact of the program on intelligence tends to favor the group receiving the earliest and maximum exposure to the program....Sginificant differences on the PPVT remained through the second grade. On tests of school achievement, Metropolitan Readiness Test, and Stanford-Binet Test, the experimental group remained consistently superior on almost half of the subtests during the first two years of schooling. However, by the end of the fourth grade, the differences were no longer significant. (pp. 40-41).

The Relationship of Achievement to Self-Concept, Language Age, and Readiness

Substantial evidence from recent research indicates that academic achievement or underachievement is related to self-concept. (Caplin, 1969; Campbell, 1967; Bledsoe, 1967; and Combs, 1971). Most of the studies attempting to determine the exact nature of this relationship have used as subjects college or high school students. In the past decade some studies have been conducted in the inter-mediate grades of the elementary school. Only a very few studies, however, have attempted to ascertain the relation-ship between self-concept and academic achievement at the kindergarten level.

A study involving kindergarten pupils is that of Giuliani (1967). He investigated the relationship between self-concept and verbal-mental ability to levels of reading readiness. He also wanted to determine if significant differences existed between males and females

in the variables tested.

Giuliani employed a population of 366 pupils (193 boys and 173 girls) from sixteen kindergartens in a New York public school district. The mean chronological age of the male subjects was five years, nine months; and the mean chronological age of the girls was five years, eight months.

Using the Metropolitan Readiness Test he classified the subjects into five levels of reading readiness: Superior, High-Normal, Average, Low-Normal, and Poor Risk. The U-Scale was used to infer self-concept levels. Evaluations of verbal-mental ability were obtained through use of the Van Alstyne Picture Vocabulary Test.

The results of this study revealed a significantly positive correlation between reading readiness and self-concept; i.e., as the self-concept became more positive, reading readiness levels became higher. Those subjects in the Superior and High-Normal categories had concepts significantly superior to those subjects classified as Low-Normal and Poor-Risk on the Metropolitan Readiness Test. No difference was reported between the reading readiness, verbal-mental ability, and self-concepts of the sexes at any of the levels of reading readiness.

Swayze (1966) conducted a study using a select group of preschool children. She investigated two groups

of children who attended the University School Kindergarten
of Indiana University during 1963-64. One of these groups
had attended school at age four and the other group had
not had previous school experience. The children were
given the Peabody Picture Vocabulary Test, a self-concept
test, and tests of intellectual and social development.
At the end of their first grade year, the children were
ranked on their performance in language arts by their two
teachers and were administered the Metropolitan Reading
Achievement Primary Battery I. Results showed that the
"children who rated high in self-concept and high in social
and intellectual development tended to rank high in reading
achievement (Butler, 1970, p. 108)."

In Children and Oral Language, Loban reported a
study in which children who had the largest vocabularies
and highest achievement in oral language in kindergarten
continued to exceed other children in reading ability as
they progressed throughout grades one through six.
(Mackintosh, 1964).

A longitudinal study designed to assess the rela-
tionship of self-concept to beginning reading achievement
was performed by Wattenberg and Clifford (1964) under a
research contract with the United States Office of Educa-
tion. Based on reported connections between poor self-
concepts and reading problems in the upper elementary

grades, this investigation attempted to discover which came first (i.e., does a poor self-concept cause reading difficulties or do reading difficulties lead to the development of a poor self-concept?).

The original population of 185 kindergarten girls and boys was drawn from two Detroit elementary schools. One of these schools was located in a lower-class neighborhood, and the other served a middle-class neighborhood. The final sample involved 128 of the original subjects who were still attending these schools in the second grade.

Measures of the subjects' self-concepts and mental ability were secured during their first semester of kindergarten attendance. Tape recordings of children's remarks while drawing pictures of their families, responses to open-ended sentences, and ratings by teachers and a clinically trained interviewer were used to infer self-concepts. The Detroit Beginning First Grade Intelligence Test was administered to obtain a measure of intellectual ability. Again, at the end of the second grade, self-concept measures and measures of progress in reading were obtained for the sample.

Although statistical levels of confidence were reported as being marginal, it was found that measures of self-concept and ego strength in kindergarten children proved to be predictive of reading achievement two and

one-half years later. In fact, the self-concept measures
were of far greater predictive value than were measures of
mental ability. The investigators, thus concluded that
the self-concept stands in a causal relationship to reading
achievement. (Watterberg and Clifford, 1964).

Ozehosky (1967) has extensively examined the
relationship of self-concept to academic achievement. In
his study, he tested 1,042 boys and girls attending
thirty-seven kindergarten classes in order to ascertain
the relationship between children's achievement and
self-concept scores in kindergarten.

Out of this population of 1,042 boys and girls,
two boys and two girls were chosen from each class based
on the highest and lowest global self-concepts, giving
a sample of 148 children. These 148 children were rated
by their teachers, and from this group the final one hundred
children were selected, comprising the twenty-five highest
and the twenty-five lowest self-concept boys, and the
twenty-five highest and twenty-five lowest self-concept
girls. The children were tested on a Teacher Rating Scale
of Subjects Self-Attitudes, the U-Scale, and the
Quantified Self-Concept Inventory. The Metropolitan
Readiness Test and grade-point average were utilized to
determine kindergarten achievement. The results of the

study demonstrated that self-concept and achievement are positively related at the kindergarten level.

CHAPTER III

METHODS AND PROCEDURES

From a parent population of 486 kindergarten students in a metropolitan school district, a sample of 80 subjects was randomly selected. The data for the study was gathered in thirteen kindergarten classrooms in a school system in Texas having a total enrollment of approximately 7,583 students. The population is relatively stable, and represents a range of socio-economic levels, including the lower-lower, upper-lower, lower-middle, upper-middle, and upper-class.

All subjects in the sample were administered the Preschool Self-Concept Picture Test, Vineland Social Maturity Scale, Metropolitan Readiness Tests, Social Status Scale, and the Stanford Early School Achievement Test, Level I.

Subject Selection

Subjects were selected without regard to sex, race, socio-economic level, or ethnic background. Each subject met the following criteria: (1) five years of age, and (2) enrolled in a public school kindergarten. Subject randomization was achieved by the use of a table of random numbers.

Test Instruments

The Preschool Self-concept Picture Test.

A review of the literature on evaluation and measurement techniques and instruments revealed a paucity of well-designed self-concept instruments for use with young children. The instrument selected for use in this study was the Preschool Self-concept Picture Test by Woolner. This test is a non-verbal, individual picture test designed between the self, the ideal self, and the congruency between the self and the ideal self-concept. (Woolner, 1966). The test is composed of four separate subsets of Negro and Caucasian boys and girls. Each subset contains ten plates with paired pictures on each plate.

There are seven negative and seven positive pictured characteristics that are identical for boys and girls, while on three plates, sex differences are noted.

Characteristics encompassed by the test are:

1. Dirty--clean
2. Active--passive
3. Aggressive--non-aggressive
4. Afraid--unafraid
5. Strong--weak
6. Acceptance of male figure--rejection of figure
7. Unhappy--happy

8. Group rejection--group acceptance

9. Sharing--not sharing

10. Dependence--independence

Responses were recorded on individual record sheets.
The answer to the first question revealed the self-concept;
the answer to the second question revealed the ideal self-
concept. The degree of congruence for children who have an
adequate self-concept is 70% or greater, the degree of con-
gruence for children who have poor self-concepts is 30% or
less. (Woolner, 1966).

Vineland Social Maturity Scale.

The Vineland Social Maturity Scale is a develop-
mental individual schedule concerned with assessing an
examinee's ability to look after his practical needs; to
accept responsibility and to use verbal language. (Doll,
1965).

The items are grouped on the model of the Stanford
Binet Scale into yearly scales which are designed to repre-
sent progressive maturation and adjustment. Each item is
conceived as representing a general growth in language
facility which is expressed in some detailed performance as
an overt expression of that facility. The value is deter-
mined basically by the extent to which this behavior is a
part of the child's independent personal pattern. (Doll,
1965.)

Cruickshank (Buros, 1965) stated that the test does not follow the usual procedures of laboratory measurement since it employs the method of report, rather than an examination.

Mechan (1958) reported that the item calibration and normative scores for the Language Development portion of the scale were derived from a sample of 120 children selected randomly from urban and rural areas. Split-half method of testing reliability gave a correlation coefficient of .989 $\pm$ .005. (Doll, 1965).

Metropolitan Readiness Tests.

The Metropolitan Readiness Tests were designed to assess certain skills and abilities that are believed to contribute to pupil success. They may be administered at any time during the kindergarten year or first grade, although generally, they are given at the beginning of the school year and/or at the end of the school year. (Hildreth, Griffiths, McGouvran, 1969).

The Metropolitan Readiness Tests are divided into six subtests which measure achievement in the following areas: word meaning, listening, matching, the alphabet, numbers, and copying.

Central to the tests' construct validity, the 1969 edition of the manual of direction states that a correlation of .80 was found between the total scores on the Metropolitan Readiness Tests and total scores on the

Murphy-Durrell Reading Readiness Analysis (revised edition).
A correlation of .76 was found between the total scores of
the Pinter-Cunningham Primary Mental Ability Test (1965
revision, Form A) and the Metropolitan Readiness Tests.
(Hildreth, Griffiths, McGouvran, 1969).

Data concerning the reliability of the test were
obtained for both kindergarten and first grade administra-
tion, and for both Forms A and B of the test. The split-
half and alternate form reliability values ranged from
.89 to .95 indicating a high degree of reliability.
(Hildreth, Griffiths, McGouvran, 1969).

Social Status Scale.

The McGuire and White Scale of Social Status was
administered to each student to approximate the position
of the subjects with regard to the frames of reference
people employ to place one another into a status group.
(McGuire, 1951).

Human behavior tends to vary according to social
roles (Warner, Meeker, Eells, 1949), and the role behaviors
appropriate to sex, age, grade, and social status are
learned according to place and through time. (McGuire and
White, 1955). Hence, differences in status indicate
potential differences in role behaviors and in value-
apprehensions.

A number of studies have demonstrated that status classifications are helpful in that they clarify biological discrepencies (age, sex), cultural patterns (lifestyles, ethnic groups), social characteristics (status role), and psychological attributes (e.g., motives, attitudes).

Three approaches for identifying the social status of a person have been developed. To employ an index only three steps are required. First, the individual or the "status parent" of the family to be placed is rated on each component scale. Second, the ratings are mulitplied by appropriate weights (determined in previous studies) and the products are summed to secure a total index score. Third, a table for estimating status levels from total index scores is employed for an approximation of either probable social class or lifestyle.(McGuire and White, 1955).

The index of status characteristics was developed by Warner and his co-workers. The total index score usually depends upon ratings for four components: namely, (a) dewlling area, (b) house type, (c) occupation, and (d) source of income. The first two components have to do with where and with whom a person or family lives in the residential areas of a city or a town. The last two have to do with socio-economic status which is translated into social class participation and reputation. (McGuire and White, 1955).

The Stanford Early School Achievement Test.

The Stanford Early School Achievement Test, Level I, was designed to provide a measure of a child's cognitive abilities. This test may be administered upon entrance into kindergarten, at the end of kindergarten, or upon entrance into the first grade (Madden and Gardner, 1969).

The Stanford Early School Achievement Test, Level I, consists of four parts: The Environment, Mathematics, Letters and Sounds, and Aural Comprehension. (Madden and Gardner, 1969).

Data concerning the reliability of the test were obtained from 8,310 pupils in kindergarten (K.1) and 11,106 pupils in Grade 1.1. Appropriate representation was given to geographic region, size of city, and socio-economic level. The split-half reliability coefficients corrected by the Spearman Brown Formula ranged from .76 to .85 to give a complete spectrum for kindergarten.

The intercorrelations between the Otis-Lennon Mental Ability Test scores and the Stanford Early School Achievement Test, Level I, ranged from .89 to .53 for K.1 with a range of .90 to .55 for 1.1 to give a complete spectrum for kindergarten.

Test Administration

The Preschool Self-Concept Picture Test.

The Preschool Self-Concept Picture Test was administered by the investigator. After establishing rapport with a child, in a quite isolated area, the examiner tells the child that he is about to play a game of pretend in which he will be asked two questions after looking at some pictures. After the examiner is confident that the child understands, he instructs the child to point to the picture that answers each question. The examiner then presents plate one and asks "Which boy (girl) are you? This one or that one?" (pointing to picture A and then to B). After the child points to picture A or picture B, the second question is asked, "Which boy (girl) would you like to be?" Responses are recorded on individual record sheets.

The Vineland Social Maturity Scale.

The instrument used to assess the language age for each subject was the Vineland Social Maturity Scale. The examiner insured cooperation with the informant in order to provide a sound factual basis for scoring each item. (Doll, 1965).

The items were scored on a sheet by the examiner on the basis of information obtained during an interview

with parents, teachers, school administrators who were familiar with the examinee.

Scores were based on the extent of excellence to which the behavior is performed. A score of one indicates excellent performance, a score of one-half was given for average performance and zero was given if a child performs the task poorly or fails to perform the task. The total (point) score was converted to a SA (year) score from a conversion table. (Doll, 1965).

The Metropolitan Readiness Tests.

The Metropolitan Readiness Tests (both Forms A and B) were administered by the researcher. Form A served as the pretest and was given at the beginning of the school year. The posttest (Form B) was administered during the last two weeks of the school year. Thus a period of approximately five months elapsed between pretesting and posttesting.

Grading of the tests was performed by the researcher, who hand-scored each test and recorded the results.

Social Status Scale.

Status indices were employed by the investigator to place subjects into status levels. The subjects to be placed were rated on each component scale, and the ratings

were multiplied by appropriate weights. The products were summed to secure a total index score. A table for estimating status levels from total index scores was employed to approximate the social class of each subject.

Information necessary for rating each component scale was secured from personal interviews, cumulative records, and the Federal Census.

Stanford Early School Achievement Test.

The Stanford Early School Achievement Test, Level I, was administered by the researcher at the end of the school year. Grading of the test was performed by the investigator, who hand-scored each test and recorded the results.

Data Analysis

The variables of self-concept, language age, and readiness were to be subjected to descriptive analysis of means and standard deviations for the pretest, posttest, and mean gain scores. The data for socio-economic status, family size, and sex was subject to a descriptive analysis of frequencies and percentages for all subjects.

Inferential analysis was performed to test significant differences for all hypotheses. The inferential analysis included correlation analysis for independence between the variables of self-concept, language age, and

readiness scores. The one-way analysis of variance was used for a group analysis on the mean gain scores of self-concept, language age, and readiness as discriminated by socio-economic status, family size, and sex. The one-way analysis of variance with repeat measures was used to determine significance between pretest and posttest scores for self-concept, language age, and readiness. The Duncan's Multiple Comparison Test was used on all significant analysis of variances to determine which group or groups scored significantly higher. All hypotheses were tested for significance at the alpha equal to .05 level.

Hypotheses one through three were subjected to to a one-way analysis of variance with repeat measures and the Duncan's Multiple Comparison Test for each hypothesis.

Hypotheses four and five were subjected to a correlation analysis for each hypothesis.

Hypotheses six through eight were subjected to a one-way analysis of variance and Duncan's Multiple Comparison Test.

Hypothesis nine was subjected to a correlation analysis.

Hypotheses ten through twelve were subjected to a one-way analysis of variance and the Duncan's Multiple Comparison Test.

Hypotheses thirteen through fifteen were subjected
to a one-way analysis of variance and the Duncan's
Multiple Comparison Test.

Hypotheses sixteen through eighteen were sub-
jected to a correlation analysis.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to extend empirical knowledge about the relationships and interrelationships existing between self-concept, language age, readiness, socio-economic status, sex, family size, and achievement for kindergarten children. Such information should be useful to a wide variety of educational personnel.

The descriptive statistical analysis included frequencies, means, and standard deviations for each of these descriptive variables in relationship to the corresponding hypothesis.

Analysis of Data

Hypothesis one stated that there will be no significant difference between pretest and posttest scores of self-concept as measured by the Preschool Self-Concept Picture Test. The descriptive analysis of the self-concept pretest and posttest scores are found in Table 1.

TABLE 1

Means and Standard Deviations for
Self-concept Scores

Test	Mean	SD	Number
Pretest	5.0448	3.8864	67
Posttest	4.0896	3.4804	67

The hypothesis was accepted at the .05 level of significance using the one-way analysis of variance with repeat measures as pretest to posttest. There was no significant difference between self-concept pretest scores and self-concept posttest scores. The one-way analysis of variance data is presented in Table 2.

TABLE 2

Analysis of Variance for Self-concept
of Pretest to Posttest

Source	DF	SS	MS	F	P	SL
Between	66	998.89				
Within	67	828.00				
A	1	30.56	30.56	2.52	0.116	ns
Residual	66	797.43	12.08			
Total	133	1826.89				

F_t (.05, 1, 66) = 4.01

Hypothesis two stated that there will be no significant difference between pretest and posttest scores of language age as measured by the Vineland Social Maturity Scale. The descriptive analysis of the language age pretest

and posttest scores are found in Table 3.

TABLE 3

Means and Standard Deviations for
Language Age Raw Scores

Test	Mean	SD	Number
Pretest	50.53	10.0372	67
Posttest	55.5746	8.6477	67

The hypothesis was rejected at the .05 level of significance using the one-way analysis of variables with repeat measures as pretest to posttest. There was a significant difference between language age pretest scores and language age posttest scores. The Duncan's Multiple Comparison Test (1.26,α=.05) indicated that posttest scores (5.91) were significantly higher than were pretest scores (5.04) at the α=.05 level. The subjects progressed at a significant rate during the treatment period for the language age variable. The one-way analysis of data is found in Table 4.

TABLE 4

Analysis of Variance for Language Age Raw
Scores of Pretest to Posttest

Source	DF	SS	MS	F	P	SL
Between	66	11062.70				
Within	67	1372.12				
A	1	850.04	850.04	107.46	0.001	.05 P
Residual	66	522.07	7.91			
Total	133	12434.83				

F_t (.05, 1, 66) = 4.01

Hypothesis three stated that there will be no
significant difference between pretest and posttest scores
of readiness as measured by the Metropolitan Readiness
Tests. The descriptive analysis of the readiness
pretest and posttest scores are found in Table 5.

TABLE 5

Means and Standard Deviations
for Readiness Scores

Test	Mean	SD	Number
Pretest	25.8507	18.7320	67
Posttest	32.2358	19.0868	67

The hypothesis was rejected at the .05 level of
significance using one-way analysis of variance with repeat
measures as pretest to posttest. There was a significant
difference between the readiness pretest scores and posttest
scores. The Duncan's Multiple Comparison test (6.46, α =
.05) indicated that the posttest scores (32.23) were

significantly higher than the pretest scores (25.85) at the α =.05. The subjects progressed at a significant rate during the treatment period of the readiness variable. The one-way analysis of variance data is found in Table 6.

TABLE 6

Analysis of Variance for
Readiness Scores

Source	DF	SS	MS	F	P	SL
Between	66	87460.73				
Within	67	11109.00				
A	1	1367.04	1367.04	9.26	0.003	.05 P
Residual	66	9741.95	147.60			
Total	133	48569.73				

F_c (.05, 1, 66) = 4.01

Hypothesis four stated that there will be no relationship between mean gain scores for self-concept and language age. The descriptive analysis for the mean gain scores for self-concept and language age are presented in Table 7.

TABLE 7

Mean Gain Scores for Self-concept, Language Age,
Readiness and Achievement

Test	Mean	SD	Number
Self-Concept	1.1343	4.8770	67
Language Age	5.0373	3.9775	67
Readiness	12.9552	12.8940	67
Achievement	68.2687	26.4956	67

The hypothesis was accepted at the α =.05 level.
There was no significant relationship (.1483, 66 compared
with .242, 66, .95,) between self-concept scores and
language age mean gain scores. The self-concept scores
are independent of the language age mean gain scores.

Hypothesis five stated that there will be no
relationship between mean gain scores for self-concept and
readiness. The descriptive analysis for the mean gain
scores for self-concept and readiness are presented in
Table 8.

TABLE 8

Mean Gain Scores for Self-Concept
and Readiness

Test	Mean	SD	Number
Self-Concept	1.1343	4.8770	67
Readiness	12.9552	12.8940	67

The hypothesis was accepted at the α =.05 level.
There was no significant relationship (-0.0047 compared
with .242,66,.05) between self-concept mean gain scores
and readiness mean gain scores. The self-concept mean
gain scores are independent of the readiness mean gain
scores.

Hypothesis six stated that there will be no re-
lationship between mean gain scores for self-concept and
data for socio-economic status. The descriptive analysis
of the socio-economic status variable is found in Table 9.

TABLE 9

Means and Standard Deviations for Self-Concept Mean
Gain Scores on the Socio-Economic Status Variable

Socio-economic Status	Mean	SD	Number
Upper	0.7500	9.776	4
Middle	-1.2857	2.5634	7
Lower	1.2428	6.3142	56
Total	0.8656	6.2228	67

This hypothesis was accepted. There was no signi-
ficant difference between the socio-economic status variable
and the self-concept mean gain scores. The socio-economic
status variable of upper, middle, lower class sub-group
classification did not yield significance between the self-
concept mean gain scores for each of the sub-group variables.
The one-way analysis variable for self-concept mean gain
scores and the socio-economic status variable is found in
Table 10.

TABLE 10

Analysis of Variance for Self-Concept Mean Gain
Scores on Socio-Economic Status Variable

Source	DF	SS	MS	F	P	SL
Between	2	36.75	18.37	0.4669	0.6290	ns
Within	64	2519.03	39.35			
Total	66	2555.79				

F_t (.05, 2, 64) = 3.15

Hypothesis seven stated that there will be no re-
lationship between mean gain scores for self-concept and
data for family size. The descriptive analysis of the
family size variable is found in Table 11.

TABLE 11

Means and Standard Deviations for Self-Concept Mean
Gain Scores on the Family Size Variable

Family Size	Mean	SD	Number
Small	1.8000	5.9029	10
Medium	0.4583	6.3311	48
Large	2.0000	6.4336	0

This hypothesis was accepted. There was no
significant difference between the family size variable
and the self-concept mean gain scores. The family size
variable of small (1-3), medium (4-6), and large (7-10)
sub-group classifications did not yield significance
between the self-concept mean gain scores for each of the

sub-group variables. The one-way analysis variable data for self-concept mean gain scores and the family size variables is found in Table 12.

TABLE 12

Analysis of Variance for Self-Concept Mean Gain
Scores of the Family Size Variable

Source	DF	SS	MS	F	P	SL
Between	2	28.27	14.13	0.3580	0.7005	ns
Within	64	2527.51	39.49			
Total	66	2555.79				

F_t (.05, 2, 64) = 3.15

Hypothesis eight stated that there will be no relationship between mean gain scores for self-concept and data for sex. The descriptive analysis of the sex variable is found in Table 13.

TABLE 13

Means and Standard Deviations for Self-Concept
Mean Gain Scores on the Sex Variable

Sex	Mean	SD	Number
Male	-0.7500	6.2261	36
Female	2.7419	5.7617	31
Total	0.8656	6.2228	67

The hypothesis was rejected. There was a significant difference between the sex variable and the self-

concept mean gain scores. The sex variable of male and
female subgroup classification yielded significance between
the self-concept mean gain scores for each of the sub-
group variables. The Duncan's Multiple Comparison Test
(2.94,α = .05) indicated that the female mean gain scores
(2.74) were significantly higher than were the male mean
gain scores (-0.75) at the α = .05 level. The females
scored higher than did the males for self-concept mean gain
scores. The one-way analysis variable data for self-concept
mean gain scores and the sex variables are found in Table 14.

TABLE 14

Analysis of Variance for Self-Concept Mean
Gain Scores on the Sex Variable

Source	DF	SS	MS	F	P	ns
Between	1	203.10	203.10	5.6114	0.0208	.05 P
Within	65	2353.68	361.1952			
Total	66	2555.79				

F_t (.05, 1, 65) = 4.01

Hypothesis nine stated that there will be no rela-
tionship between mean gain scores for language age and
readiness. The descriptive analysis for language age mean
gain scores and readiness mean gain scores are presented in
Table 15.

TABLE 15

Mean Gain Scores for Language
Age and Readiness

Test	Mean	SD	Number
Language Age	5.0373	3.9775	67
Readiness	12.9552	12.8940	67

The hypothesis was accepted at the α =.05 level. There was no significant relationship (.1888, 66 compared with .242, 66, .05) between language age mean gain scores and readiness mean gain scores. The language age mean gain scores are independent of the readiness mean gain scores.

Hypothesis ten stated that there will be no relationship between mean gain scores for language age and data for socio-economic status. The descriptive analysis of the socio-economic status variable is found in Table 16.

TABLE 16

Means and Standard Deviations for Language Age Mean
Gain Scores on the Socio-Economic
Status Variable

Socio-economic Status	Mean	SD	Number
Upper	2.50000	1.35401	4
Middle	5.64286	3.81569	7
Lower	5.14286	3.94590	56
Total	5.03731	3.84975	67

This hypothesis was accepted. There was no significant difference between the socio-economic status variable and the language age mean gain scores. The socio-economic status variable of upper, middle, lower subgroup classification did not yield significance between the language age mean gain scores for each of the subgroup variables. The one-way analysis variable for language age mean gain scores and the socio-economic status variable is found in Table 17.

TABLE 17

Analysis of Variance for Language Age Mean Gain
Scores on the Socio-Economic
Status Variable

Source	DF	SS	MS	F	P	SL
Between	2	28.9424	14.4712	0.9757	0.3825	ns
Within	64	949.2143	14.8315			
Total	66	978.1567				

F_t (.05, 2, 64) = 3.15

Hypothesis eleven stated that there will be no relationship between mean gain scores for language age and data for family size. The descriptive analysis of the family size variable is found in Table 18.

TABLE 18

Means and Standard Deviations for Language Age Mean Gain
Scores on the Family Size Variable

Family Size	Mean	SD	Number
Upper	4.50000	4.27525	10
Middle	5.13542	4.06168	48
Lower	5.11111	2.08833	9
Total	5.03731	3.84975	67

This hypothesis was accepted. There was no significant difference between the family size variable and the language age mean gain scores. The family size variable of small (1-3), medium (4-6), large (7-10) sub-group classification did not yield significance between the language age mean gain scores for each of the sub-group variables. The one-way analysis of variable data for language age mean gain scores and the family size variable is found in Table 19.

TABLE 19

Analysis of Variance for Language Age Mean Gain
Scores on the Family Size Variable

Source	DF	SS	MS	F	P	SL
Between	2	3.3980	1.6990	0.1116	0.8946	ns
Within	64	974.7587	15.2306			
Total	66	978.1567				

Hypothesis twelve stated that there will be no relationship between mean gain scores for language age and data for sex. The descriptive analysis of the sex variable is found in Table 20.

TABLE 20

Means and Standard Deviations for Language Age Mean
Gain Scores on the Sex Variable

Sex	Mean	SD	Number
Male	4.37500	3.03403	36
Female	5.80645	4.55280	31
Total	5.03731	3.84975	67

This hypothesis was accepted. There was no significant difference between the sex variable and the language age mean gain scores. The sex variable did not yield significance between the language age mean gain scores for each of the sub-group variables. The one-way analysis variable data for language age mean gain scores and the sex variable is found in Table 21.

TABLE 21

Analysis of Variance for Language Age Mean
Gain Scores on the Sex Variable

Source	DF	SS	MS	F	P	SL
Between	1	34.1305	34.1305	2.3500	0.1301	ns
Within	65	944.0262	14.5235			
Total	66	978.1567				

F_t (.05, 2, 64) = 4.01

Hypothesis thirteen stated that there will be no

relationship between mean gain scores for readiness and

data for socio-economic status. The descriptive analysis

of the socio-economic status variable is found in Table 22.

TABLE 22

Means and Standard Deviations for Readiness Mean
Gain Scores on the Socio-Economic
Status Variable

Socio-economic Status	Mean	SD	Number
Upper	-0.25000	12.28481	4
Middle	7.14286	7.64697	7
Lower	6.76786	10.50193	56
Total	6.38806	10.34108	67

This hypothesis was accepted. There was no signi-

ficant difference between the socio-economic status

variable and the readiness mean gain scores. The socio-

economic status variable of upper, middle, lower class sub-

group classifications did not yield significance between

the readiness mean gain scores for each of the sub-group

variables. The one-way analysis variable for readiness mean gain scores and the socio-economic variable is found in Table 23.

TABLE 23

Analysis of Variance for Readiness Mean Gain Scores
on the Socio-Economic Status Variable

Source	DF	SS	MS	F	P	SL
Between	2	188.3212	94.1606	0.8772	0.4209	ns
Within	64	6869.5893	107.3373			
Total	66	7057.9104				

F_t (.05, 2, 64) = 3.15

Hypothesis fourteen stated that there will be no relationship between mean gain scores for readiness and data for family size. The descriptive analysis of the family size variable is found in Table 24.

TABLE 24

Means and Standard Deviations for Readiness Mean
Gain Scores on the Family Size Variable

Family Size	Mean	SD	Number
Small	8.20000	14.59680	10
Medium	6.56250	10.04015	48
Large	3.44444	6.02310	9
Total	6.38806	10.34108	67

This hypothesis was accepted. There was no significant difference between the family size variable and

the readiness mean gain scores. The family size variable
of small (1-3), medium (4-6), large (7-10) sub-group
classifications did not yield significance between the
language age mean gain scores for each of the sub-group
variables. The one-way analysis variable data for language
age mean gain scores and family size variance is found in
Table 25.

TABLE 25

Analysis of Variance for Readiness Mean Gain Scores
on the Family Size Variable

Source	DF	SS	MS	F	P	SL
Between	2	112.2757	56.1379	0.5173	0.5986	ns
Within	64	6945.6347	108.5255			
Total	66	7057.9104				

F_t (.05, 2, 64) = 3.15

Hypothesis fifteen stated that there will be no
relationship between maen gain scores for readiness and
data for sex. The descriptive analysis of the sex
variable is found in Table 26.

TABLE 26

Means and Standard Deviations for Readiness Mean
Gain Scores on the Sex Variable

Sex	Mean	SD	Number
Male	6.08333	9.01546	36
Female	6.74194	11.84052	31
Total	6.38806	10.34108	67

This hypothesis was accepted. There was no signi-
ficant difference between the sex variable and the readiness
mean gain scores. The sex variable did not yield signi-
ficance–between the language mean gain scores for each of
the sub-group variables. The one-way analysis variable
for language age mean gain scores and the sex variable
is found in Table 27.

TABLE 27

Analysis of Variance for Readiness Mean Gain
Scores on the Sex Variable

Source	DF	SS	MS	F	P	SL
Between	1	7.2250	7.2250	0.0666	0.7972	ns
Within	65	7050.6855	108.4721			
Total	66	7057.9104				

F_t (.05, 2, 64) = 4.01

Hypothesis sixteen states that there will be no relationship between achievement and mean gain scores for self-concept. The descriptive analysis for this hypothesis is found in Table 28.

TABLE 28

Mean Gain Scores for Self-Concept
and Achievement

Test	Mean	SD	Number
Self-Concept	1.1343	4.8770	67
Achievement	68.2687	26.4956	67

The hypothesis was accepted at the .05 level. There was no significant relationship (-.1910, 66 compared to .242, α = .05) between the achievement scores and self-concept mean gain scores. The achievement scores were independent of the self-concept mean gain scores at the .05 level.

Hypothesis seventeen stated that there will be no relationship between achievement and mean gain scores for language age. The descriptive analysis for this hypothesis if found in Table 29.

TABLE 29

Mean Gain Scores for Language Age
and Achievement

Test	Mean	SD	Number
Language Age	5.0373	3.9775	67
Achievement	68.2687	26.4956	67

The hypothesis was accepted at the .05 level. There was no significant relationship (-0.0660, 66 compared to .242, α=.05) between achievement scores and mean gain scores for language age. The achievement scores were independent of the language age mean gain scores at the .05 level.

Hypothesis eighteen stated that there will be no relationship between achievement and mean gain scores for readiness. The descriptive analysis for this hypothesis is found in Table 30.

TABLE 30

Mean Gain Scores for Readiness
and Achievement

Test	Mean	SD	Number
Readiness	12.9552	12.8940	67
Achievement	68.2687	26.4956	67

The hypothesis was accepted at the .05 level.
There was no significant relationship (.2189, 66 compared
to .242, α=.05) between achievement scores and mean gain
scores for readiness. The achievement scores were
independent of the readiness mean gain scores at the
.05 level.

Summary

A sample of sixty-seven kindergarten subjects
were tested over a treatment period of four and one-half
months for the areas of self-concept, language age, and
readiness. These variables were classified in terms of
the subject descriptors of socio-economic status, family
size, and sex. The subjects were tested at the end of
the treatment period for achievement.

The analysis indicated that there was a signi-
ficant increase from pretest to posttest during the
treatment period for language age (hypothesis 2) and
readiness (hypothesis 3). The subjects did gain during
the treatment period for these two areas. There was a
significant difference between the sex variable and the
self-concept mean gain scores. The female mean gain scores
were significantly higher than the male mean gain scores.
All other hypotheses were nonsignificant in the analysis of
the data.

CHAPTER V

SUMMARY, FINDINGS, AND DISCUSSIONS AND RECOMMENDATIONS

Summary

This investigation was conducted to determine the
relationships and interrelationships between the variables
of self-concept, language age, readiness, socio-economic
status, sex, family size and achievement. The study also
compared achievement scores of a group of kindergarten
students with their mean gain scores for self-concept,
language age, and readiness.

The data for the study was gathered from a parent
population of 486 kindergarten subjects in a public shcool
system in Texas. The sample consisted of sixty-seven
randomly selected five-year old subjects. Each subject
was administered the Preschool Self-Concept Picture Test
to measure the self-concepts; the Vineland Social Maturity
Scale to establish the language age; and the Metropolitan
Readiness Tests to determine a score. These tests were
administered at the beginning and the end of the treat-
ment period. The McGuire and White Social Status Scale
was employed to categorize each subject into the appropriate

socio-economic level. The Stanford Early School Achievement Test, Level I, was administered at the end of the treatment period to each subject in the sample. The score on the test was used as the criterion of achievement for each subject.

The data collected were then subjected to a statistical analysis to determine significant levels for each hypotheses. Descriptive statistical analysis included frequencies, means, and standard deviations for each of the descriptive variables in relationship to the corresponding hypothesis. The inferential analyses included correlation variables of self-concept, language age, and readiness scores. The one-way analysis was used on the mean gain scores of self-concept, language age, and readiness as discriminated by socio-economic status, sex, and family size. The one-way analysis of variance with repeat measures was used to determine significance between pretest and posttest scores for self-concept, language age, and readiness. The Duncan's Multiple Comparison Test was used on all significant analysis of variances to determine which group or groups scored significantly higher. All hypotheses were tested for significance at the alpha equal to .05 level.

Findings

The following results are based on the statistical findings for the specific sample employed in this study.

Hypothesis One stated that there will be no significant difference between pretest and posttest scores of self-concept as measured by the Preschool Self-Concept Picture Test. Since there was no significant difference between pretest and posttest scores for self-concept, the hypothesis was accepted.

Hypothesis Two stated that there will be no significant difference between pretest and posttest scores of language age as measured by the Vineland Social Maturity Scale. Since there was a significant difference between pretest and posttest for language age, the hypothesis was rejected.

Hypothesis Three stated that there will be no significant difference between pretest and posttest scores of readiness as measured by the Metropolitan Readiness Tests. Since there was a significant difference between pretest and posttest scores for readiness, the hypothesis was rejected.

Hypothesis Four stated that there will be no relationship between mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test and

language age as measured by the Vineland Social Maturity Scale. Since there was no significant relationship between mean gain scores for self-concept and language age, the hypothesis was accepted.

Hypothesis Five stated that there will be no relationship between mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test and readiness as measured by the Metropolitan Readiness Tests. Since there was no significant relationship between mean gain scores for self-concept and readiness, the hypothesis was accepted.

Hypothesis Six stated that there will be no relationship between mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test and data for socio-economic status as measured by the McGuire and White Social Status Scale. Since there was no significant relationship between mean gain scores for self-concept and socio-economic status, the hypothesis was accepted.

Hypothesis Seven stated that there will be no relationship between mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test and data for family size. Since there was no significant relationship between mean gain scores for self-concept and family size, the hypothesis was accepted.

Hypothesis Eight stated that there will be no relationship between mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test and data for sex. Since there was a significant relationship between mean gain scores for self-concept and the sex variable, the hypothesis was rejected. The females scored higher than the males for self-concept mean gain scores.

Hypothesis Nine stated that there will be no relationship between mean gain scores for language age as measured by the Vineland Social Maturity Scale and readiness as measured by the Metropolitan Readiness Tests. Since there was no significant relationship between mean gain scores for language age and readiness, the hypothesis was accepted.

Hypothesis Ten stated that there will be no relationship between mean gain scores for language age as measured by the Vineland Social Maturity Scale and data for socio-economic status as measured by the McGuire and White Social Status Scale. Since there was no significant relationship between mean gain scores for language age and socio-economic status, the hypothesis was accepted.

Hypothesis Eleven stated that there will be no relationship between mean gain scores for language age as measured by the Vineland Social Maturity Scale and data

for family size. Since there was no significant rela-
tionship between mean gain scores for language age and
family size, the hypothesis was accepted.

Hypothesis Twelve stated that there will be no
relationship between mean gain scores for language age
as measured by the Vineland Social Maturity Scale and
data for sex. Since there was no significant relationship
between mean gain scores for language age and the sex
variable, the hypothesis was accepted.

Hypothesis Thirteen stated that there will be no
relationship between mean gain scores for readiness as
measured by the Metropolitan Readiness Test and data for
socio-economic status as measured by the McGuire and
White Social Status Scale. Since there was no significant
relationship between mean gain scores for readiness and
socio-economic status, the hypothesis was accepted.

Hypothesis Fourteen stated that there will be no
relationship between mean gain scores for readiness as
measured by the Metropolitan Readiness Tests and data for
family size. Since there was no significant relationship
between mean gain scores for readiness and family size, the
hypothesis was accepted.

Hypothesis Fifteen stated that there will be no
relationship between mean gain scores for readiness as
measured by the Metropolitan Readiness Tests and data for

sex. Since there was no significant relationship between mean gain scores for readiness and the sex variable, the hypothesis was accepted.

Hypothesis Sixteen stated that there will be no relationship between achievement as measured by the Stanford Early School Achievement Test, Level I, and mean gain scores for self-concept as measured by the Preschool Self-Concept Picture Test. Since there was no significant relationship between achievement scores and mean gain scores for self-concept, the hypothesis was accepted.

Hypothesis Seventeen stated that there will be no relationship between achievement as measured by the Stanford Early School Achievement Test, Level I, and mean gain scores for language age as measured by the Vineland Social Maturity Scale. Since there was no significant relationship between achievement scores and mean gain scores for language age, the hypothesis was accepted.

Hypothesis Eighteen stated that there will be no relationship between achievement as measured by the Stanford Early School Achievement Test, Level I, and mean gain scores for readiness as measured by the Metropolitan Readiness Tests. Since there was no significant relation-ship between achievement scores and mean gain scores for readiness, the hypothesis was accepted.

Discussion and Recommendations

Findings in this study indicates that, contrary to other research findings, there was no significant difference between the variables of self-concept, language age and socio-economic status. Bernstein (1958, 1959), as well as Olson and Larson (1965), states that there is a positive correlation between the variables of socio-economis status, language age and self-concept. According to Bernstein (1970) children from the lower socio-economic status have the same understandings of his language system as do children who have considerable facility using the elaborated code. The use of the restricted code by the lower socio-economic group directs the ways of learning and finding relevance that are not in harmony with the school. Hence, the lower socio-economic child is often caught between two different systems of communication. Reisman (1963) pointed out that in everyday conversation with family and peers, children from the lower socio-economic groups have considerable facility and expression in unstructured, spontaneous situations. The writer, therefore, recommends that educators need to be cognizant of these findings and plan adjustments in the educational system to respond to the needs of the individual. In contrast, Deutsch and Cherry-Persach (1966) found that language development and socio-economic level were not

significantly related. The findings of this study support those of Deutsch and Cherry-Persach.

The difference between the findings in this study in relationship to the variables of socio-economic status and language development and those of Templin (1957) and Loban (1963) may be the result of a difference in the instruments employed to assess language development. Templin contrasted differences in sentence length used by middle and lower class children, whereas Loban based his findings on counts of errors or deviations made by middle and lower class children. This study, however employed the Vineland Social Maturity Scale which is a developmental scale concerned with assessing an examinee's ability to look after his practical needs, to accept responsibility, and to use verbal language. This instrument encompasses the broader testing method of report rather than examination.

Results of this study concerning pupils' self-concept and achievement are contrary to the findings of Wattenberg and Clifford (1964) and Ozehosky (1967). Wattenberg and Clifford concluded that self-concept stands in a causal relationship to reading achievement and Ozehosky concluded that on the basis of his study that self-concept and achievement are positively related at the kindergarten level. The present study indicated that there was no

relationship between achievement and mean gain scores for
self-concept. The sample for Wattenberg and Clifford's
study was obtained from two Detroit elementary schools.
Tape recordings of children's remarks while drawing
pictures of their families, responses to open-ended
sentences, and ratings by teachers and a clinically
trained interviewer were used to infer self-concepts.
The Detroit Beginning First Grade Intelligence Test was
administered to obtain measures of intellectual ability.
This study, however utilized the Preschool Self-Concept
Picture Test to assess self-concept, while the Stanford
Early School Achievement Test, Level I was administered
at the end of the treatment period to obtain scores used
as the criterion of achievement for each subject. Ozehosky
(1967) tested each subject in his sample in order to
ascertain achievement and self-concept scores. The child-
ren were tested on a Teacher Rating Scale of Subjects
Self-Attitudes, the U-Scale, and the Quantified Self-
Concept Inventory. The Metropolitan Readiness Test and
grade-point average were utilized to determine kindergarten
achievement. Differences in the geographic regions where
the studies were conducted as well as measurement tech-
niques and instruments may account for the different find-
ings of these studies.

Fink (1963) indicated that not all high achievers

possess favorable self-concepts, although various studies have demonstrated a positive correlation between measures of achievement and self-concept. However, this study was designed to measure growth in self-concept in relation to achievement whereas Wattenberg and Clifford's and Ozehosky's studies were designed to determine the correlation between self-concept and achievement. Wattenberg and Clifford's study was conducted over a period of three years while the treatment period for Ozehosky's study was nine months. Hence, one reason for the data analyzed in this study not supporting the findings of Wattenberg and Clifford's and those of Ozehosky's may be attributed to the difference in the design of the studies. While it was not central to the purpose of this study, the researcher arranged the data for this study in similar fashion to Ozehosky's study and found a significant relationship between the posttest self-concept scores and achievement. Because of the numerous studies supporting the relationship between self-concept and achievement the writer recommends that whatever the phenomenon that accounted for the regression of self-concept during the treatment period be identified and analyzed through further study with similar subjects and conditions.

In this study, self-concept was significantly

correlated with the sex variable. Female subjects gained significantly in self-concept, whereas male subjects lost significantly in self-concept. Several reasons may be suggested as the cause for this significant difference. All thirteen teachers in this study were females. It is possible that they unconsciously orientated their expectations, and curriculum content more positively toward the girls than toward the boys. Moreover, it is generally acknowledged that a developmental lag exists between the sexes at this age level. Guiliani's research (1967) indicated that there was a significant relationship between self-concept and readiness. Guiliani reported no difference between self-concept, readiness and verbal mental ability of the sexes at any level of readiness. Although this study revealed no significant relationship between mean gain scores for readiness, self-concept and sex. The data of the present study revealed that there was a significant difference between pretest and posttest scores for language age and readiness. These findings correspond with those of Gray, et al (1966), Frost (1966), and Blank and Solomon (1968).

The following recommendations are made on the basis of findings in this study:

    1. Further research is needed to determine whether, and to what extent, self-concept can be

accurately measured and if self-concept can
be measured research is needed in the develop-
ment of more efficient and standardized in-
struments for assessing self-concept of pre-
school children. This would provide more
precise means of comparing different studies.

2. Further study should be conducted to deter-
mine the effects or changes in self-concept
of males taught by female teachers and males
taught by male teachers.

3. Replication of this study should be carried
out in different geographic regions to see
if the same relationships and interrelation-
ships exist between the variables in this
study.

4. This study should be replicated utilizing
different instruments for the measurement
of language age to determine if the same
relationships and interrelationships exist
between the variables in this study.

5. Experimental efforts are needed in finding
ways of enhancing positive self-concept in
young children.

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