A STUDY OF THE SELF-CONCEPT LEVELS OF BOYS AND GIRLS AT THE FIRST GRADE LEVEL OF SCHOOL

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CHAPTER I

THE NATURE OF THE PROBLEM

The present study was suggested by findings that boys have consistently, as a group, scored lower on achievement tests than do girls. With the current emphasis in schools on academic excellence, the problem of lower achievement by boys needs investigation. Much literature has been written in this area. Most of the literature indicates that boys do not achieve as well as girls as a group until the university graduate level.

Observations by elementary school teachers tend to support the position that there are differences between boys and girls in terms of school achievement.

The well-documented findings of differences in the rate of achievement of boys and girls at the elementary school level gives rise to the problem of trying to isolate a factor or factors associated with this phenomenon.

One of the areas that has been investigated in recent years has been the relationship of self-concept to academic achievement. Some investigators have argued that children with strong self-concepts would set about to deal with school work with confidence that would aid achievement.

The present study was suggested by findings that in the upper grades of the elementary school there tended to be a

positive association between academic achievement and measures of self-concept. This gave rise to the inevitable "chicken-or-egg" question. It could be argued that children with strong, positive self-concepts would tackle school work with success-inducing confidence and that the level of self-concept was causal to academic achievement in general and reading in particular. Yet, a common-sense viewpoint would say that the experience a youngster had with learning tasks should play an important role in the formation of his self-concept.

Practical considerations reinforced the worthwhileness of making this matter the subject of at least an exploratory investigation. If it indeed proved true that the self concepts with which children entered kindergarten played a vital part in determining the course of their reading achievement, an obvious implication would call for study of methods by which self-concepts could be changed at this early point (or before it) in their school careers. There would then open up the possibility that kindergarten procedures or pre-school programs for parents could affect academic progress in a highly significant way.

The General Background and Need for the Study

A number of investigators have reported that there is a significant difference in school achievement between boys and girls at the elementary school level. As far back as 1909, Ayres noted that 12.8 percent more boys than girls

repeated grades; that 17.2 percent more girls than boys completed "common school" (eight grades); and that there was 13 percent more retardation among boys.[1]

One of the most significant studies on sex differences was reported by Stroud and Lindquist. Over 300 schools with 50,000 pupils were the source of the data. The data compiled covered a number of years of testing in the Iowa schools, using the Iowa Every-Pupils Basic Skills Test. In this program, grades three through eight were tested on reading comprehensions, vocabulary, word study skills, basic language skills, and arithmetic skills. The authors state that girls have maintained a consistent and, on the whole, a significant superiority over boys in the subject tested.[2]

Much of the concern about sex differences in achievement has been expressed by writers in the field of reading. Hughes[3] used the total comprehension scores from the Chicago Reading Tests. She measured the reading achievement of boys and girls in grades three through eight. She found that the greatest difference was at grade three, where girls achieve

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[1]Leonard Ayres, Laggards in Our Schools (New York: Russell Sage Foundation, 1909).

[2]J. B. Stroud, and E. F. Lindquist, "Sex Differences in Achievement in the Elementary and Secondary Schools," Journal of Educational Psychology, XXXIII (1942), pp. 657-67.

[3]Mildred C. Hughes, "Sex Differences in Reading Achievement in the Elementary Grades," Clinical Studies in Reading, II (Chicago: University of Chicago Press, 1953) Supplementary Educational Monographs No. 77, pp. 102-6.

more than one-half a school year above the boys. This difference was found to be significant at the 1 percent level of confidence. At grade four the difference favoring the girls was significant at the 5 percent level of confidence, while in grades five through eight there was an observable difference in the scores favoring the girls, but the difference was not statistically significant.

A study by Fabian[4] tended to confirm the fact that boys have greater difficulty with reading than do girls. He reports data for 200 second-grade pupils tested at the end of the school year on the Metropolitan Achievement Test, Primary II. Of the thirty-eight pupils that were found to be more than one-half year retarded in reading, eighteen were found to have either low I.Q. scores or had a history of interrupted schooling. When these pupils were removed from the group, there remained twenty cases designated as reading retardation cases. Nineteen of the twenty were boys.

Nila[5] tested three hundred first graders on several individual and group readiness tests during the first weeks of school. She reports that on the basis of these test scores the boys and the girls were equally ready to read. These same pupils were tested at the end of the school year

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[4]A. A. Fabian, "Reading Disability: An Index of Pathology," American Journal of Orthopsychiatry, XXV (1955), pp. 319-29.

[5]Sister Mary Nila, "Foundations of a Successful Reading Program," Education, LXXIII (1953), pp. 543-55.

for reading achievement. Seventy-two were designated as reading failures; forty-five, or 63 percent, of the failures were boys, and 37 percent were girls.

Prescott[6] used the Metropolitan Readiness Test to determine whether this test showed sex differences. He tested over 7,000 boys and 7,000 girls who were beginning the first grade. He reports that when chronological age is equated the performance of girls is superior to that of boys. The difference favoring the girls is significant at the 5 percent level of confidence.

A second source of data on sex differences and achievement in reading is found in reports from clinical sources, such as remedial reading clinics and child guidance clinics. Seldom do the data from these sources deal primarily with sex differences. Generally, the titles of the research that have been reported do not indicate that sex differences are discussed. Almost without exception, however, these studies report a larger number of boys as referrals compared with the number of girls. When these studies deal with the seriously retarded reader even a higher disproportionate percentage of boys compared with girls is discovered. Monroe[7] reported a study of over 400 children

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[6]George A. Prescott, "Sex Differences in Metropolitan Readiness Tests Results," Journal of Educational Research, XLVIII (1955), pp. 605-10.

[7]Marion Monroe, Children Who Cannot Read (Chicago: University of Chicago Press, 1932).

who had been referred to the Chicago Institute for Juvenile Research for various problems, one of which was impaired reading. One group of 155 children was referred specifically for reading problems; in this group 86 percent were boys and only 14 percent were girls.

Blanchard[8] discusses seventy-three cases seen at the Philadelphia Child Guidance Clinic, in which reading was given as one of the reasons for referral. She reports that sixty-three of these cases were boys and ten cases were girls.

Preston[9] studied the effects of security-insecurity in the home, the school, and the social situation of retarded readers. In a sample of 100 reading failures possessing normal intelligence and having no physical defects, there were seventy-two boys and twenty-eight girls.

Heilman[10] in his book makes the following comment about clinical and remedial studies, "Many other clinical and remedial studies, particularly those of a 'case study' nature, also report a preponderance of boys as remedial reading cases."

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[8]Phyllis Blanchard, "Reading Disabilities in Relation to Difficulties of Personality and Emotional Development," Mental Hygiene, XX (1936), pp. 384-413.

[9]Mary J. Preston, "Reading Failure and the Child's Security," American Journal of Orthopsychiatry, (1940), pp. 239-52.

[10]Arthur W. Heilman, Principles and Practices of Teaching Reading (Columbus: Charles R. Merrill Books, Inc., 1961), p. 355.

Fred T. Taylor,[11] who summarizes sex differences in the Encyclopedia of Educational Research, devotes little attention to reading, but does state that the evidence from numerous studies of sex differences in school achievement is remarkably consistent in one respect: girls are assigned higher grades by their teachers than are boys. Taylor goes on to say that a larger percentage of girls than boys is found among those who are accelerated in school, and a smaller percentage among those who are retarded. More boys than girls are not promoted at the end of their first year in school. Reading disabilities and speech handicaps occur more commonly among boys than among girls.

Many other studies have shown similar results, namely, that boys do not achieve as well in elementary schools as do girls. If these studies are correct, then the need for this study is indicated. First, some investigation should be made to see if boys and girls have essential differences when they come to school that would be a factor in the differences of their achievement levels. Second, some attempt should be made to determine if these differences in achievement that have been reported are caused by practices in the schools. Third, if the differences in boys and girls when they come to school are great enough to cause a difference in achievement in school subjects then perhaps the practice

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[11]Fred T. Taylor, Encyclopedia of Educational Research ed. Chester W. Harris (1960 ed.; New York: The Macmillian Co., 1952), p. 896.

of having boys and girls in the same classrooms at the lower level is not wise.

Summary

Considerable evidence has been compiled to indicate that academic achievement of boys is less than that of girls. Girls score higher on standardized achievement tests. Girls are assigned higher grades by teachers than are boys. In recent years some research has shown that there is a positive association between academic achievement and measures of self-concept. If self-concept and academic achievement are associated then the need for this present study is implied. An exploratory study should be made to determine the self-concept levels of boys and girls as they enter school and if early school experiences affect self-concept.

CHAPTER II

BACKGROUND FOR THE PRESENT STUDY

The well-documented findings of differences in the rate of achievement of boys and girls at the elementary school level give rise to the problem of trying to isolate a causal factor or causal factors.

The present study was suggested by findings disclosing that in the upper grades of elementary school there tends to be positive association between academic achievment and measures of self-concept of the individual. A number of investigators have implicated the self-concept in the genesis of learning difficulties.

Relationship of Self-Concept and Academic Achievement

Anyone doing research on the self-concept must recognize that this phenomenon is viewed from several theoretical perspectives. It can, however, be operationally defined. Recently it has been discussed as part of the concern with ego psychology and the problems of identity.

Reeder[12] reported that pupils with low self-concepts

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[12]Thelma Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement and Classroom Adjustment," Dissertation Abstracts, XV (1955), p. 2472.

in the middle grades of school exhibited low academic achievement in relation to their potentials.

Fink[13] studied self-concept as it related to academic underachievement. Pupils were matched on a basis of a miscellanea of psychological test data which were analyzed independently by three psychologists for evidence of adequate and inadequate self-concept. The hypothesis that adequate self-concept is related to high academic achievement and that inadequate self-concept was related to underachievement was supported at the .01 level for boys and at the .1 level for girls.

Sears[14] centered her attention to the influence of early school experiences. She associated positive self-concepts with academic achievement in early school years. She stated that behavior in a task situation was affected by previous academic success or failure and by the feelings children had about themselves in such situations.

Spache[15] connected learning difficulties with self-concept, and felt that teachers and clinicians should devote their efforts to methods which would facilitate maturation of self-concept and help it to become more consistent

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[13]Martin B. Fink, "Self-Concept as it Relates to Academic Underachievement," California Journal of Educational Research, XIII (1962), pp. 57-62.

[14]Pauline Sears, "Problems in the Investigation of Achievement and Self-Esteem Motivation," Nebraska Symposium on Motivation, ed. M. R. Jones (Lincoln: University of Nebraska Press, 1957), pp. 104-117.

[15]George Spache, "The Learner's Concept of Self," American Council on Education Studies, XIII (1949), pp. 97-99.

and better integrated.

Gann[16] described retarded readers as insecure and fearful in emotionally challenging situations. For this study 102 boys and girls from grades three through six were used. The readers were selected on the basis of a discrepancy between their intellectual capacity and their ability to read.

In a study by Walsh[17] dolls were used to get at the self-concepts of boys in grades two through five who had reading difficulties. The low achievers consistently differed from adequate readers in portraying a boy doll (presumably themselves) as (1) restricted in action, (2) unable to express his feelings appropriately and accurately, (3) being criticized, rejected, or isolated, and (4) acting defensively through compliance, evasion, or negativism.

In another study by Spache[18], using the Picture-Frustration Test, he stated the retarded readers lacked self-confidence, and further described them as acceptant of blame in contact with adults but compensatorily overly aggressive toward peers.

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[16]Edith Gann, Reading Difficulty and Personality Organization (New York: King's Crown Press, 1945), pp. 84-87.

[17]Ann Marie Walsh, Self-Concepts of Bright Boys with Learning Difficulties (New York: Bureau of Publications, Teachers College, Columbia University, 1959).

[18]George Spache, "Personality Characteristics of Retarded Readers As Measured by the Picture-Frustration Test," Education and Psychological Measurement, XVI (1954), pp. 196-192.

Perkins[19] reports that among 251 fourth and sixth grade children tested, the girls had significantly greater self-ideal congruance than did the boys.

Theories of Self-Concept

The self-concept with which this present study is concerned is the self as the individual who is known to himself. There is a wide variety of theories which agree on the central part played by the self-concept in the behavior of the individual. In this present study, the main stress will be given to the theory of conscious self-concept, sometimes called the phenomenal self.

Within the phenomenological approach Snygg and Combs[20] state that the self-concept includes those parts of the phenomenal field which the individual had differentiated as definite and fairly stable characteristics of himself. The self-concept theorists believe that one cannot understand and predict human behavior without some knowledge of what the individual thinks of his environment and of his self as he sees it in relation to the environment.

The idea of the self theory is not new. Early in the history of American psychology, there was considerable

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[19]Hugh Perkins, "Factors Influencing Change in Children's Self-Concepts," Child Development, XXIX (1958), pp. 221-230.

[20]Donald Snygg and Arthur Combs, Individual Behavior (New York: Harper, 1949), pp. 147-159.

interest in the self. For example, William James[21] accorded this topic an important place in his psychological thinking. In his earlier writings Freud did not explicitly formalize a self construct or assign the closely related ego functions much importance. Later, Freud[22] expressed the view that the underlying conditions were similar for mistakes in reading, writing, and speech as in the forgetting of names. Freud goes on to state, "The self-reference complex (personal, family, or professional) proves to be the most effective of the disturbing complexes."

In recent years there has been a great increase in the number of self theories and the number of people in the psychology area who have been influenced by self theories. During the 1940's there was much writing done on the theories of "self". It was not until after 1948 that much empirical work was done. Since that time there has been an increasingly large output of reports of investigations in this area.

Symonds,[23] in his attempts to conceptualize the self within the framework of psychoanalytic theory, states that the self as concept develops according to what one's parents

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[21]William James, Principles of Psychology (New York: Holt, 1890), 2 vols.

[22]Sigmund Freud, Psychopathology of Everday Life (New York: Random House, 1938), p. 68.

[23]Percival Symonds, The Ego and Self (New York: Harper, 1949), pp. 146-152.

call one, is the core of self, and provides possible consistency to behavior.

Similarly the self in social psychology emphasizes early development and relatively stable characteristics. Sherif and Cantril[24] state that both formation and change of self attitudes, like other attitudes, are on the basis of learning principles. The primary stage for their development is perceptual, mostly through verbal judgments of adults; and they are more or less enduring.

Sullivan's[25] conception of the self system, also, emphasizes early interpersonal relations and implies stability. His view is that self is built from reflected appraisals coming from the parents. Security measures from the self system sanctions good-me behavior and forbids bad-me behavior. Since the self system guards the person from anxiety, originally transmitted from the mother, it is held in high esteem by the individual and protected from criticism.

In the present study the definition developed by Rogers[26] will serve as the operational definition:

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[24]Muzafer Sherif and Hadley Cantril, The Psychology of Ego-Involvements (New York: Wiley, 1947), pp. 186-192.

[25]Harry Sullivan, The Interpersonal Theory of Psychiatry (New York: Norton Press, 1952), pp. 38-42.

[26]Carl Rogers, Client Centered Therapy (Boston: Houghton-Mifflin Company, 1951), p. 18.

> The self-concept or self structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as perceptions of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with the experiences and objects; and goals and ideals which are perceived as having positive or negative valance.

Erickson's[27] approach focuses on a relationship of childhood and society that is pertinent to a study of self-concept and school achievement. He notes, in contrast to that of animals, the prolonged dependency of the human and states:

> . . . The human child's much more fragmentary patterns depend on the process of tradition which guides and gives meaning to parental responses. The outcome of this more variable completion of drive patterns by tradition. . . forever ties the individual to the traditions and to the institutions of his childhood milieu. . . .

He sees identity formation as the crucial problem for our culture, and he attributes to society the responsibility for providing culturally acceptable roles which are appropriate to psychosocial schedule. The individual is tied to the traditions and institutions of his childhood milieu, yet there are vicissitudes of self-identity, the successive synthesis of identifications, that are subject to the way the actual social structure of the environment and the image of reality is transmitted to the child during successive childhood crises.

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[27]Erick Erickson, Childhood and Society (New York: W. W. Norton, 1950), p. 72.

Jersild[28] portrays the problem to be met in the schools in the statement:

> When a person resists the learning that may be beneficial to him he is, in effect, trying to protect or to shield an unhealthy condition. But, more broadly speaking, he is not actually protecting something unhealthy as such; he is trying to safeguard his picture of himself, his self-concept, the illusions concerning himself which he has built and which give him much trouble.

Of particular interest to this investigation is Erickson's[29] formulation of events with the oncoming of latency state, at which time he states the child learns to win recognition by producing things:

> It is at this point that wider society becomes significant in its ways of admitting the child to an understanding of meaningful roles in its total economy. Many a child's development is disrupted when family life may not have prepared him for school life, or when school life may fail to sustain the promises of earlier states.

On the basis of Erickson's idea we would expect the self-concept to influence achievement in school. Starkweather and Cowling[30] indicate that the pre-school life of the child has apparently great influence upon unaccountable differences between boys and girls in the first grade.

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[28]Arthur Jersild, In Search of Self (1952, Bureau of Publication, Teachers College, Columbia University), p. 114.

[29]Erickson, Childhood and Society, p. 82.

[30]Elizabeth Starkweather and Frieda Cowling, "The Measurement of Conforming and Nonconforming Behavior in Preschool Children," Proc. of The Oklahoma Academy of Science, LXIV (1963), pp. 168-180.

Although the fact that the self-concept has been mentioned previously as being relatively stable, some authorities indicate that it can be changed. The responsibility of the school to consider the self-concept is also implied in the statements of other writers. For example, Allport[31] maintains that if the law of effect is to be applied to human learning then it must be viewed as secondary to the principle of ego (self) envolvement. He goes on to state that this implies a condition of the total participation of the self. The self must be involved as knower, as organizer, as observer, as status seeker, and as socialized human being.

Although the fact that the self-concept has been mentioned in the previous paragraph as being relatively stable, some authorities do indicate that it can be changed. Rogers[32] maintains that if a teacher will develop in his classroom the same type of climate as should be developed for client-centered therapy, the student will become a self-initiated learner. This climate will appeal to the essentially constructive nature of the organism and will result in a change in self-concept.

Perkins[33] discusses changes in teacher behavior that

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[31]Gordon Allport, "The Ego in Contemporary Psychology," Psychological Review, L (1943), pp. 451-478.

[32]Rogers, Client Centered Therapy, p. 184.

[33]Perkins, Child Development, pp. 221-230.

led to changes in the student's perception of self. Sears[34] reports significant variables found in a pilot study that she hypothesizes are related to the effects of school experiences on the self-concept and the motivation of school children. In an experimental study Nuthmann[35] demonstrated that the use of verbal reward effected a change in terms of increases of self-accepting responses to personality test items. The verbal stimulus "good" was effective while a light response was not effective. Diller[36] experimentally induced success and failure and found these to influence the self-concept. He found that the self operates on a global fashion and is related to the value system of the individual. After success the attitudes toward self are definitely enhanced on an overt level and tend to be enhanced on the covert level. Conversely, after a failure experience, the defensive function of the self-concept is demonstrated in the absence of a decrease in overt attitude towards the self and others and the presence of a change in covert attitudes.

Both theoretical approaches and empirical findings indicate that the problem of global versus specific aspects

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[34]Sears, Nebraska Symposium on Motivation, pp. 104-117.

[35]Anne Nuthmann, "Conditioning of a Response Class on a Personality Test," Journal of Abnormal and Social Psychology, I (1957), pp. 87-92.

[36]Leonard Diller, "Conscious and Unconscious Self-Attitudes After Success and Failure," Journal of Personality, XXIII (1954-55), pp. 1-12.

or actual versus self ideal discrepancy representing conflicts in conceptualizations of the self-concept must be resolved before appropriate changes can be effected. On the one hand, Rogers[37] states:

> . . . the outstanding fact which must be taken into theoretical account is that the organism is at all times a total organized system in which alternation of any part may produce changes in any other part. . . .

This implies that success in other than school situations will affect success in school work. It also implies that changes in school achievement may be effected through remedial measures in achievement situations oriented to areas outside of school. On the other hand, in Erickson's[38] viewpoint a suggestion that specific aspects of the self-concept may be pertinent. For example, he discusses an industry versus inferiority conflict possibly present upon entering school and pictures the possible specific aspects on the self-concept. He goes on to maintain that the child has accepted the idea that there is no workable future within the womb of his family, and thus begins to get ready to apply himself to given skills and tasks. He begins to want to bring a productive situation to completion and this desire gradually supersedes the whims and wishes of his autonomous organism. The danger for the child at this stage

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[37] Rogers, Client Centered Therapy, p. 126.

[38] Erickson, Childhood and Society, p. 96.

lies in a sense of inadequacy and inferiority. If he dispairs of his tools and skills or of his status among his tool partners, his ego boundaries suffer, and he abandons hope for the ability to identify with others who apply themselves to the same area of his productive world.

Self-Concept Level and Meeting Problems

There is empirical evidence to support the hypothesized crucial nature of specific aspects of self-concept. Miller and Worchel[39] found a curvilinear relationship between self-evaluation of adequacy in coping with frustration and efficiency in maintaining accuracy of performance. Block and Thomas[40] ask the question, "Is satisfaction with self a measure of adjustment?" and found a curvilinear relationship in which both very high and very low self-acceptance are associated with maladjustment.

There have been a number of reports on research related to this present study. In general, they support the hypothesis that self-concept and academic achievement are related. In addition there is evidence for viewing specific

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[39]Kent Miller and Philip Worchel, "The Effects of Need-Achieving and Self-Ideal Discrepancy on Performance Under Stress," Journal of Personality, XXV (1956), pp. 179-190.

[40]Jack Block and Harold Thomas, "Is Satisfaction With Self a Measure of Adjustment?" Journal of Abnormal and Social Psychology, LI (1959), pp. 1645-1646.

aspects rather than a global interpretation of the self-concept in relation to achievement-oriented situations.

Bruck[41] obtained self-concept measures on 300 pupils from third to sixth grades of three public elementary schools and from the eleventh grade of a senior high school in Flint, Michigan. He found a positive and significant relationship between self-concept and grade-point average at all grade levels.

Bodwin[42] studied 100 pupils with reading disability, 100 with arithmetic disability, and 100 with no educational disability from the third and sixth grades in three elementary schools in Flint, Michigan and found a significantly positive relationship (a correlation of .72 at the third-grade level and a .62 at the sixth-grade level) between immature self-concept and reading disability. The relationships between immature self-concepts and the disabilities studied were greater than for other school subjects.

Overstreet[43] found a positive relationship between quality of self evaluations specific to the school area and academic achievement. The self evaluations were derived from content analysis of a series of recorded interviews

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[41]Max Bruck, "A Study of Age Difference and Sex Difference in the Relationship Between Self-Concept and Grade Point Average," Dissertation Abstracts, XIX (1959), p. 1646.

[42]Raymond Bodwin, "The Relationship Between Immature Self-Concept and Certain Educational Disabilities," Dissertation Abstracts, XIX (1959), pp. 1645-1646.

[43]Phoebe Overstreet, "Factors Associated With the Quality of Self-Evaluations," Dissertation Abstracts, XX (1959), pp. 761-762.

with ninth-grade boys and their parents.

Spicola[44] in a study of 381 sixth-grade boys in Florida found mental age, chronological age, and school entrance age almost as predictive as seven correlates of reading combined including the self-concept. However, she states that more boys perceived self as inadequate in learning ability than were actually low, and boys perceiving self low were low in achievement even though 57 percent were average and above in mental age.

Seay[45] studied the relations between changes in reading skill and self-concepts accompanying a remedial program for boys with low reading ability and reasonably normal intelligence. The 72 boys were matched with a control group (no reading problems) for age, grade, and language factors. They were in grades four through seven. He states that changes in social self-concept levels and changes in total self-concept levels seem to be positively associated with experiences in a clinical remedial program. The control group showed changes for personal self-concept but not for social and total self-concepts. Changes in level of vocabulary, comprehension, and total reading skills were

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[44]Rose Spicola, "An Investigation into Seven Correlates of Reading Achievement Including the Self-Concept," Dissertation Abstracts, XXI (1961), p. 2199.

[45]Lesten Seay, "A Study to Determine Some Relations Between Changes in Reading Skills and Self-Concepts Accompanying a Remedial Program for Boys With Low Reading Ability and Reasonably Normal Intelligence," Dissertation Abstracts, XXI (1961), p. 2598.

associated positively but not significantly with corresponding changes in levels of personal, social, and total self-concepts.

A critical review of the literature on the self-concept by Wylie[46] appeared in 1961. She does not review any studies in terms of specifically noting the relationships between self-concept and academic achievement. However, pertinent to this investigation is her comment on the influence of the self-concept on learning in experimental situations. She states:

> A number of investigators have been concerned with relationships between S's self-concept and his behavior in experimental learning tasks. The assumption is made that the self-concept characteristics are antecedent to the cognitive behavior. Sometimes it is specifically assumed that this relationship is basically a motivation upon learning.

Also pertinent to this investigation in terms of interest in induced success-failure and changes in the self-concept is Wylie's[47] summary statement following a review of 15 experiments which explore various relationships between self-regard and experimentally induced success or failure. In her synthesis she makes the following statements:

> 1. It seems that Ss will, under certain conditions, change their self-evaluations after experimentally induced success or failure. These changes are most likely to involve self-ratings.

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[46]Ruth Wylie, The Self Concept (Lincoln: University of Nebraska Press, 1961), p. 200.

[47]Ibid., pp. 198-199.

on the experimental task itself, or on the characteristic which has been evaluated, and are least likely to involve global self-regard. The latter seems to be affected little if any by a single experimental failure or evaluation. There is some evidence that changes in self-rating upward after success are more frequent than are changes downward after failure.

2. Whether or not changes in self-rating occur, there may be changes in 'covert' self-evaluation. However, it remains to be demonstrated that the 'covert' measures validly indicate covert self-evaluation.

3. It seems that experimental failure may also lead to various defensive behaviors such as devaluing the source of failure information, failing to recall the low evaluation accurately, engaging in behaviors which have brought self-esteem in the past, or blaming others for one's failure. In addition, there may be performance decrements on the task which threatens S with failure, and concomitant anxiety reactions may be seen.

4. There is limited evidence to suggest that the following may be found to be associated with changes in self-evaluation or with self-blame for failure: S's personality characteristics, such as his basic, global level of self-regard; S's test anxiety; the particular characteristics which have been devaluated in the experiment; the degree to which S values the source of his failure or success information and feels the source is well informed. It appears that S is influenced by reality considerations as well as by the desire for self-enhancement. Performance decrements and anxiety indicators on the experimental task may be greater in Ss whose basic level of self-regard is low.

Contraposition

The empirical evidence to support the hypothesis that an individual's self-concept plays an important role in his school academic achievement, is quite large. The reader should recognize that some evidence has been gathered that would indicate need for caution. Able workers have come to differing conclusions. After a review of studies prior to 1940, Wilking[48] concluded that a straight educational approach to learning problems was indicated.

Fernald[49] reported that whereas many cases of reading disability treated in her clinic displayed disturbances subsequent to their failure, in only four of the 78 cases was this so prior to the reading disability.

By contrast, Robinson[50] maintains that social, visual, and emotional difficulties appeared most frequently as a causal factor in poor school progress and of failure to learn to read.

Wylie's[51] overall conclusion after her critical review

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[48]Sarah Wilking, "Personality Maladjustment as a Causal Factor in Reading Disability," Elementary School Journal, XLII (1941), pp. 268-279.

[49]Grace Fernald, Remedial Techniques in Basic School Subjects (New York: McGraw-Hill, 1943), p. 8.

[50]Helen Robinson, Why Pupils Fail in Reading (Chicago: University of Chicago Press, 1946), p. 36.

[51]Wylie, The Self Concept, p. 200.

of studies on the self-concept is that enough results have been found to be tantalizing. On the other hand, there is some ambiguity in the results, considerable apparent contradictions among the findings of the various studies, and a tendency for different methods to produce different results.

Summary

Much has been written in the past few years about the self-concept. It is a theory that was developed by the social psychologists. The self-theory can be operationally defined as the individual as he views himself. Although much literature has been written to indicate that the self-concept is fairly durable, considerable evidence points to the fact that the level of self-concept does change.

The level of self-concept seems to be involved as the individual meets the problems of life. Many investigators have related the self-concept to learning and success and failure in school.

Some caution should be noted, however, because different investigations using different methods have tended to produce different results.

CHAPTER III

DESIGN OF THE PRESENT STUDY

The present study is an exploratory one designed to gather data to determine whether the association reported by other investigators linking self-concepts to academic achievement could be in some measure an answer to the lack of congruency between the academic achievement of boys and girls in the first grade.

Statement of the Problem

A great amount of evidence has been accumulated to substantiate the fact that boys do not achieve as well as girls in school. This raises questions as to the factors that might account for this occurrence. Considerable evidence has been gathered as reported in the previous chapter that links self-concept to school achievement. Some investigators have indicated that the level of self-concept does affect school achievement. If this is the case, then the self-concept level of children as they enter school should be investigated. If boys and girls enter school with relatively the same level of self-concept, then the fact that the achievement level of girls is substantially higher than boys may be school oriented. If boys and girls

enter school with different self-concept levels, then perhaps boys should not be taught by the same methods nor have the same school experiences that girls have.

Measuring children of relatively the same age and in the same grade in school, but who have had a different length of time in school should yield some evidence if school experiences materially affect self-concept.

Hypotheses

After a review of the reports that have been made and a consideration of the theory that has been developed, the following hypotheses were established for the present study:

1. Measures of self-concept taken during the first grade will show no significant difference between boys and girls who have not had kindergarten experience.

2. Measures of self-concept taken during first grade will show no significant difference between boys and girls who have had a kindergarten experience.

3. Measures of self-concept taken during first grade will show a significant difference between girls who have had a kindergarten experience and girls who have not had a kindergarten experience.

4. Measures of self-concept taken during first grade will show a significant difference between boys who have had kindergarten experience and boys who have not had a kindergarten experience.

Research Design

The research design was developed to test the stated hypotheses. It had been postulated that boys and girls do not have equal success in academic achievement in school. It was also postulated that self-concept may be linked to academic achievement. Therefore, the study was designed to determine if children entering school for the first time had different self-concept levels, and then measure children of the same age but who had been in a school situation for a longer period of time.

Figure 1 illustrates the design of the present study in diagram form.

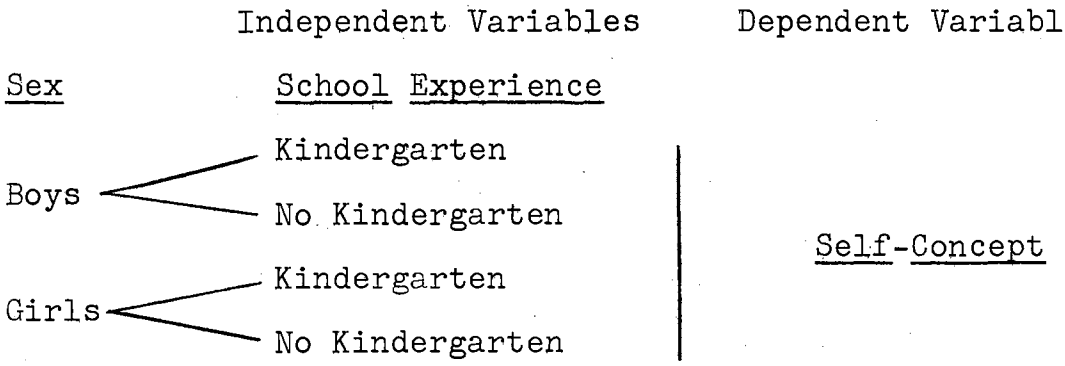

Figure 1. Research Design of Independent and Dependent Variables.

Pilot Study

For dealing with self-concept, there existed no standardized measuring device or verified procedure applicable for first grade children. Accordingly, it was necessary to develop a procedure. The problem was complicated by the fact

that the literature on self-concept indicated that there might be several dimensions to self-concept. A decision was made to attempt to adapt the content-analysis procedure first used for other purposes by Stolz[51] and since adapted by others, and apply it to obtain quantified measures of self-concepts which it was hoped might have reliabilities as high as those she obtained for subtle attitudinal phenomena.

To obtain a measure of self-concept it appeared promising to make magnetic tape recordings of the remarks of children as they participate in an incomplete sentence interview. For the latter purpose a series of stems were written based on the stems used by Wattenburg and Clifford.[52]

A pilot study was done to test the procedure and the stems for usefulness with first-grade children. No attempt was made in the pilot study to determine if the length of the school experience of the children was the same or different. The purpose of the pilot was to determine if the stems would differentiate between those children judged to have high self-concepts and those children judged to have low self-concepts.

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[51]Lois Stolz, et. al. Father Relations of War-Born Children (Stanford: Stanford University Press, 1954).

[52]Wayne Wattenburg and Claire Clifford, "Relationship of the Self-Concept to Beginning Achievement in Reading," Child Development, XXX (1964), pp. 461-467.

Two classrooms were chosen for study and the teachers were given the form shown in APPENDIX A. The two girls and two boys who, in the opinion of the teacher, were judged to have the highest self-concept in the class were selected to participate in the pilot study. The same number of boys and girls were selected who were judged to have the lowest self-concept in the classes. Sixteen children in all were selected.

The list of stems that were used in the pilot study can be found in APPENDIX B. It will be noted that all stems were cast in the second person. This was done because when stems are presented to children in the first person, the children tend to give replies referring to the interviewer.

During the pilot project the following standard procedure was used: First, the interviewer was presented to the class by the teacher. The interviewer explained that he wanted to talk to some boys and girls and that he needed some help. Almost without exception every child would raise his hand at this point and ask to be chosen. When the interview started, each child was taken individually by the interviewer to a separate room which contained a table, chairs for the child and the interviewer, and a tape recorder placed near the child's chair.

An eighteen inch by thirty-six inch sheet of drawing paper and crayons were ready on the table for the child. The interviewer asked, "Would you draw for me, please, a picture of a man and a woman?" When the child had finished

drawing the picture of the man and woman, the interviewer made some complimentary remark about the picture.

The interviewer then said, "I would like to have you help me with a game. On these cards there is part of a statement. When I read the statement to you, I would like to have you finish it. For example, if I say, 'Your name is. . . .' what would you say?" If the child seemed confused and gave only his first name the interviewer then provided a stem that required the child to give his last name. The interviewer then spoke the stems listed in APPENDIX B. These were on cards which were shuffled prior to each interview. If a child did not respond to an item, it was repeated. If he did not respond a second time, the interviewer went on to the next sentence stem. After all the sentence stems had been spoken, the interviewer returned to the stems that had not been answered and repeated them once more. If the child did not answer them this time, then no further questioning was done.

In order that the reader may have a more accurate impression of the nature of the material thus elicited, an example of one child's answers to the stems is given in APPENDIX C.

The tape recordings were played back and the answers the child gave in response to the stems were coded. The procedure was to divide the child's remarks into thought units when necessary. Most of the answers were of a single

thought unit type. Each thought unit was categorized as to whether it contained a self-reference. The self-reference was further coded as to whether the self-reference was an expression of a positive self-concept, a neutral observation as far as self-concept was concerned, or a negative self-concept.

The criteria used for coding the responses for the children are explained in the following section of this report.

Thought Unit

The basic thought unit contains at least one independent clause and includes further, if they are present, the words, phrases, or dependent clauses that are related to the idea expressed in the independent clause. Two independent clauses are treated as one thought unit when one qualifies the other in terms of a causal relationship, i.e., one independent clause begins with "because" and is directly related to the thought expressed in the other independent clause.

The essence of the thought unit stems from the independent clause, but the whole clause may not necessarily be verbalized by the child. For example, to the stem "When you draw a picture" the child may simply respond "good" rather than "I draw good."

There are three exceptions to the definition of a basic thought unit. First, there is always a separation of the child's thought units by the statement of the stems used

by the interviewer.

The second exception concerns the listing of accomplishments of what the child does in school, or the labeling of spontaneous references to his work. For example, when the child describes what he has learned, a separate thought unit is bracketed for each skill. Similarly, if the child describes what he does in school, each thought unit is bracketed separately for each different skill in which he indicates personal participation.

Surplus words constitute a third possible exception to definition of a basic thought unit. They are handled as follows:

A series of words that do not make "sense" are bracketed together as a single thought unit.

Stammering kinds of statements are included with the thought unit to which they are nearest. Example: "The... the...hits...they hit me." One thought unit.

Words, or a single word, standing alone are included in the following unit if they give emphasis to that unit. Examples: "I guess I would. . . ." "Oh, I think I could. . . ." "Heck. Ahhsshew...I...first I forgot. . . ." One unit each.

When the child delays his response by saying initially, for example, "yeah," "oh," or "ahmmm," the word is bracketed with the thought unit following.

When a child repeats a statement in sing-song fashion,

the repetitions are bracketed as a single thought unit unless the child changes his wording.

Self-Reference

A self-reference is a thought unit which has as its subject, either stated or "understood", the child's name or first person pronoun. Occasionally a child will ungrammatically use "me" instead of "I" as a subject in a clause which, since it is the subject of the statement, indicates a self-reference. The self-reference may stem from the dependent clause part of a thought unit. Thus, "I fall down", "When I fall down. . . .", and "fall down" indicate self-references, but "You fall down" is not classified as a self-reference. If the subject is "understood" and there is doubt whether or not the unit is a self-reference, a verbalizing of the statement using I as a subject may determine the classification of the unit.

The only exceptions to the above criteria for classification of a self-reference is when the child uses his name, specifically stated, in any fashion, e.g., "They call me Bill.", or when the thought unit may be further classified as a competence unit without the stated or understood "I" as the subject.

Competence Unit

A thought unit is further classified as a competence or self-concept unit when it may be interpreted as inferring the child has feelings of competence--positive,

neutral, or negative. The competence or self-concept units include statements in which the child indicates participation in a task-oriented situation, an evaluation of his orientation to using his skills, or an evaluation of his performances.

A repetition of a statement without any change of wording is bracketed as a thought unit of self-reference (if the subject is in the first person) rather than a second competence unit for the same statement.

Competence units are classified as positive, neutral, or negative self-concepts according to the following criteria:

Positive

1. Expression of an ability to do something. Examples: "I can. . . .", "This is easy."

2. Reference to a finished task or past accomplishments. Example: "I did. . . ." This criteria may be expressed in the child's historical present tense, e.g., "At home I. . . .", and finishing with an expression of competence in accomplishing something.

3. Knowledge indicated. Examples: "I know. . . ." "I learned in school. . . ."

4. The child expresses a positive evaluation of his work by himself or others. Examples: "The teacher thinks my work in school is good." "I do this good."

5. Inference of a competent orientation under stress. Example: the child states he got a band aid instead of crying when he hurt himself.

6. The child infers he has an untroubled or conflict free orientation to using his skills. Examples: The child states he feels "happy" when he is trying to learn something. The child refers to himself as big or grown up.

Neutral

1. Abilities are expressed in the present or future tense without an evaluation such as described in item four under positive criteria. Example: "I will do that."

2. Implication the child can do something but has not carried it out. Example: "I have to. . . ."

3. Neutral evaluation of work. Example: "My writing is pretty good."

4. Conjecture. Example: "If I didn't know what to do, I would learn."

Negative

1. Denial of an ability to do something unless conditional or hypothetical circumstances are specifically stated. Examples: "I can't. . . .", "It is hard."

2. Denial of knowledge. Examples: "I don't know." "I don't remember."

3. Negative evaluation of his work. Examples: "I make mistakes." "I do not do good."

4. Inference of feelings of incompetence under stress. Examples: "I run to mama when I'm hurt." "I get scared."

5. Inference of feelings of incompetence in his orientation to learning. Examples: "I'll fail." "I'm

worried" or "sad when trying to learn something." "I'm stupid." "I need help."

6. Inference of general feelings of incompetence. Example: "I'm stupid" or the child infers he feels he's a baby and doesn't believe he can ever grow up.

Results of the Pilot Study

Sixteen children were interviewed for the pilot study. The results of the interviews were subjected to the criteria for analyzing the transcriptions as mentioned above. The purpose of the pilot study was to determine if the content analysis procedure did discriminate between first-grade children who were judged to have high or low self-concept.

An item analysis was done of the responses given by the children to the thirty stems. A summary of this item analysis may be seen in APPENDIX D. As a result of study of this item analysis and analyzing the types of answers received to the stems a decision was made not to use items numbered eleven and twenty-five. The item analysis revealed that these stems did not elicit a variety of responses from the subjects. For example, to the stem, "What you do best on the playground. . . .", the children in the pilot study almost always answered the single word, "play". As a result of this finding these two stems were used in the study as "warmup" prior to the actual testing.

TABLE I shows the relationship between girls judged to be high and low in self-concept, based on the class-

room teacher's judgment, and their coded responses given to the stems. A chi-square statistic was applied to this information and the probability was found to be less than .01.

TABLE II shows the relationship between boys judged to be high and low in self-concept, based on the classroom teacher's judgment and the coded responses given to the stems. A chi-square statistic was applied to this information and probability was found to be less than .01.

Procedures Used in the Study

The same procedure was used by the investigator in the final study that was found to be successful in the pilot study in interviewing the children. A number of children in the first grade would be studied for the purpose of securing measures of their self-concept strength. In addition an opinion of the child's teacher would be obtained in an attempt to gain another measure of the self-concept strength of the child. These data would be treated statistically to determine the statistical significance with which the investigator could reject or fail to reject the null form of the hypothesis and could confirm or infirm the alternate form of the hypothesis.

The reliability of the instrument used was determined by the use of contingency coefficient between the ratings of the investigator and an independent rater. The reliability was further checked by a test-retest procedure by the

TABLE I

RELATIONSHIP BETWEEN GIRLS JUDGED TO BE HIGH AND LOW IN SELF-CONCEPT, BASED ON THE CLASSROOM TEACHER'S JUDGMENT

	Subject Responses			
	Positive	Neutral	Negative	Total
High Girls	40	58	22	120
Low Girls	21	42	57	120
Total	61	100	79	240

Chi-Square = 24.16

Degrees of Freedom = 2

$P < .01$

TABLE II

RELATIONSHIP BETWEEN BOYS JUDGED TO BE HIGH AND LOW IN SELF-CONCEPT, BASED ON THE CLASSROOM TEACHER'S JUDGMENT

	Subject Responses			
	Positive	Neutral	Negative	Total
High Boys	39	63	18	120
Low Boys	11	70	39	120
Total	50	133	57	240

Chi-Square = 27.10

Degrees of Freedom = 2

$P < .01$

investigator. A further discussion and the results of this procedure will be discussed in Chapter IV.

In view of the exploratory nature of this study and the possibility that there might be relationships specific to one school system the decision was reached to base the study on elementary schools in different communities in North Central Oklahoma. Three school systems were chosen. One school was located in a city that can be described as industrial in character. The second elementary school was in a city that was centered around a large university and the children that attended this school for the most part had parents that were employed by the university. A third school was located in the same community as the second school but the children that attended the third school had parents that were employed elsewhere in the community. The fourth elementary school was chosen because it was located in a town that was essentially rural in character.

The public schools in Oklahoma offer an interesting situation in terms of measurement of first-grade children. In the three school systems selected, about one-half of the children have had a kindergarten experience of some type and about fifty percent of the children are having their first school experience in the first grade. For the purpose of this study no attempt was made to evaluate the quality of the kindergarten experiences but the school record and information from teachers was used to determine whether a child had participated in a kindergarten. For

one child school records were not available, the teacher did not know, so direct communication with the parents was necessary to obtain this information.

Since the procedures required by this present study were time consuming, it was impossible to gather data for every child in the schools selected. Random selection provides more appropriate use of statistics for estimating experimental error. The children studied were selected by first having the first grade teachers rate the children in terms of self-concepts and ego strength according to the form found in APPENDIX B. The children in each class were then ranked by sex from those with highest self-concept strength down to the lowerst in self-concept strength. A table of random digits[51] was used to select the specific child within each class. The starting digit was selected by putting the point of a pencil down blindly on a page that had been selected by tossing a coin twice. The table of random digits contains three pages and the authors suggest a coin tossing formula for selecting the starting page. Upon tossing a coin twice, two tails came up and page 633 in the reference by Wallis and Roberts was used. This was used as a starting point and digits were read from left to right from that point. When the children for one classroom were

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[51]W. Allen Wallis and Harry V. Roberts, Statistics, A New Approach (Brooklyn: The Free Press of Glencoe, Inc., 1956), pp. 631-635.

selected. the selection process was contined from that point in the digit table for the selection of the children of the next classroom.

In all, ten classrooms were used. These ten classrooms had a total of 278 children of which 153 were boys and 125 were girls. Using the random digit selection method described above, seventy boys and sixty-six girls were selected to participate in the study. TABLE III displays the data as to the number of girls and boys in the class of each teacher and the number of children from that class that were used as subjects for the study.

A letter was sent to all the parents of these children who were proposed subjects of the study. A copy of this letter can be found in APPENDIX E. The parents of two boys did not want their children to participate in the study and the parents of five of the girls asked that their children not participate. Through random selection three of the children mentioned above were selected and, of course, were not interviewed as requested by the parents.

Of the 133 subjects that were interviewed, subjects numbered twenty-four, sixty-four, eighty-four, and one hundred and fourteen could not be used. A check of the school records indicated that one of these children had repeated first grade and thus did not have the same school experience as did the rest of the subjects. A second child had a speech problem so severe that it was impossible to understand the taped transcription of the interview. Another child was

TABLE III

LOCATION OF THE ENROLLEES AND SUBJECTS IN THE SCHOOLS

	Boys Enrolled	No. Subjects Selected	Girls Enrolled	No. Subjects Selected
School A				
Teacher 1	17	9	11	6
Teacher 2	15	8	11	6
Teacher 3	13	7	16	9
School B				
Teacher 4	14	9	12	7
Teacher 5	13	4	15	5
School C				
Teacher 6	16	7	16	7
Teacher 7	20	9	10	5
School D				
Teacher 8	14	5	12	6
Teacher 9	16	5	11	6
Teacher 10	15	6	11	5
Totals	153	70	125	66

newly arrived from a foreign country and it was impossible to score her responses to the stems. One child was too shy, and did not respond to the structured interview. This left a total of 129 subjects from which usable interviews were obtained.

TABLE IV shows the number of boys and girls interviewed from whom usable interviews were obtained. The table divides the children by sex and school experience.

The interviews were conducted over a six-weeks period

TABLE IV

NUMBER OF USABLE INTERVIEWS DIVIDED BY BOYS AND GIRLS AND SCHOOL EXPERIENCE

	Boys	Girls
Kindergarten Experience	34	37
No Kindergarten Experience	33	25
Total	67	62

of time. Fortunately, every child selected by the random digit method described above was interviewed. No epidemics of illness were encountered and none of the subjects moved after he was selected and before he was interviewed. It was necessary to make two special return trips to classrooms to interview children that were absent during the first visit to that classroom.

Each interview averaged about twenty minutes. The longest interview lasted thirty-five minutes and the shortest interview lasted just over eight minutes.

The transcriptions were coded by the investigator after a time lapse of at least three days. This was done to lessen the effect of the interview climate upon the investigator when the coding was done.

Summary

The present study is an exploratory one done to try

to attempt to discover some reasons for the apparent discrepancy between academic achievement of boys and girls. Some investigators have linked academic achievement to self-concept.

A pilot study was done to investigate the use of a content-analysis procedure for obtaining quantified measures of self-concept. Detailed criteria for evaluating the thought units of the children were devised. The pilot study, done with sixteen children, indicated that the instrument devised did discriminate between children of high and low self-concepts.

Ten classrooms, located in four elementary schools in three North Central Oklahoma towns were used for the study. A random digit method was used to select the children for the study. A total of 129 usable interviews were obtained. About one-half of the total were children who had a kindergarten school experience and the other one-half were having their first school experience in first grade.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study is to determine if a difference can be measured in the self-concept level of boys and girls who have been in school for different lengths of time. Considerable evidence has been presented to indicate that self-concept and school achievement are related. Tests were given to boys and girls in the first grade, some of whom had more than a year of experience in school and others who were in their first year of school.

Statistics Employed

In order to establish the validity of the criteria used for judging the responses of the children to the stems, the following procedure was used. The principal investigator rated all of the 129 children from whom usable interviews were obtained. A month after the last interview was made and scored, an independent person rated a selection of interviews drawn at random from the 129. The same procedure for selecting the sixteen interviews for the correlation study was used that was described in selecting the sample population from which the interviews were made. This procedure was discussed in Chapter III.

At the same time the independent rater coded the

responses, the principal investigator re-coded the responses and a measure of correlation was applied to this information. Correlations were run between the principal investigators rating and his retest, the independent rater's coding and the principal investigators original coding, and a third correlation between the principal investigators retest ratings and the coding done by the independent rater.

The contingency coefficient C was chosen as the statistic to be used in the correlation of the above ratings. Siegel says:[52]

> The contingency coefficient C is a measure of the extent of association or relation between two sets of attributes. It is uniquely useful when we have only categorical (nominal scale) information about one or both sets of these attributes. That is, it may be used when the information about the attributes consist of an unordered series of frequencies.

The formula for the contingency coefficient as explained by Siegel is:[53]

$$C = \sqrt{\frac{\chi^2}{N + \chi^2}}$$

TABLE V shows the results of the contingency coefficient statistic when a comparison was made between the original codings of the principal investigator and the same investi-

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[52]Sidney Siegel, Nonparametric Statistics (New York: McGraw-Hill Book Company, 1956), p. 196.

[53]Ibid., p. 197.

TABLE V

CONTINGENCY COEFFICIENT BETWEEN PRINCIPAL INVESTIGATOR'S ORIGINAL RATINGS AND THE SAME INVESTIGATOR'S RATINGS AFTER A MONTH HAD ELAPSED

Original Codings	Retest Codings			
	Positive	Neutral	Negative	Total
Negative	3	8	136	147
Neutral	7	124	6	137
Positive	145	6	5	156
Total	155	138	147	440

Chi-Square (4 df) = 681.68
$P < .001$
$C = .75$

gator's codings after a time lapse.

The significance of C = .75 can be best illustrated by again referring to Siegel:[54]

> The upper limit for the contingency coefficient is a function of the number of categories. When k = r, the upper limit for C, that is, the C which would occur for two perfectly correlated variables, is $\frac{k-1}{k}$. For instance, the upper limit of C for a 2 x 2 table is $\sqrt{\frac{1}{2}} = .707$. For a 3 x 3 table, the maximum value which C can attain is $\sqrt{2/3} = .816$.

Taking into account this statement by Siegel, C = .75 is a relatively high correlation.

[54] Ibid., p. 201.

TABLE VI shows the contingency coefficient C of the relationship between the independent rater's coding scores and the retest scores of the principal investigator.

TABLE VI shows that the contingency coefficient was equal to .71 between the re-codings of the principal investigator and the codings of the independent rater. The independent rater and the principal investigator obtained these measures shown in TABLE VI at the same time. A screen was placed between the two and conversation was not permitted.

TABLE VII shows the contingency coefficient C information on the codings between the principal investigator's original codings and the codings of the independent rater. This contingency coefficient was equal to .74. As was mentioned above, on a 3 x 3 table, a perfect correlation, using this statistic, is equal to .816. Considering this information the scores of .75, .71, and .74 are relatively high. The degree of significance of these figures can best be explained by again quoting Siegel.[55]

> . . . in the course of computing the value of C we compute a statistic which itself provides a simple and adequate indication of the significance of C. This statistic, of course, is X^2. We may test whether an observed C differs significantly from chance simply by determining whether the X^2 for the data is significant.

The Chi-squares for all three tables were significant

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[55] Ibid., p. 199.

TABLE VI

CONTINGENCY COEFFICIENT BETWEEN PRINCIPAL INVESTIGATOR'S RETEST RATINGS AND THE INDEPENDENT RATER'S CODING OF THE CHILDREN'S RESPONSES

Independent rater's coding	Principal investigator's retest codings			
	Positive	Neutral	Negative	Total
Negative	8	22	114	144
Neutral	27	101	7	135
Positive	132	20	2	154
Total	167	143	123	433

Chi-Square (4 df) = 438.90
P < .01
C = .71

TABLE VII

CONTINGENCY COEFFICIENT BETWEEN PRINCIPAL INVESTIGATOR'S ORIGINAL CODING AND THE INDEPENDENT CODER'S RATINGS

Independent rater's coding	Principal's investigator's original coding			
	Positive	Neutral	Negative	Total
Negative	5	18	125	147
Neutral	21	108	8	137
Positive	137	16	3	156
Total	162	142	136	440

Chi-Square (4 df) = 525.61
P < .01
C = .74

at the .01 level. Thus as explained in Siegel, the contingency coefficients are significant.

Findings of the Study

The following section is an explanation of the statistical comparisons that were made between the independent variables. These comparisons are made on each stem that was presented to the subjects. No attempt will be made to combine the responses of subjects in the stems as a whole. Each stem will be considered as a separate test.

For the sake of brevity and better understanding the following terms will be used:

The term "kindergarten boys" will refer to the boys that have had a kindergarten experience before entering first grade.

The term "kindergarten girls" will refer to girls that have had a kindergarten experience before entering first grade.

The term "non-kindergarten girls" will refer to the girls in the study who entered first grade without the experience of kindergarten.

The term "non-kindergarten boys" will refer to the boys who participated in the study and entered first grade without a kindergarten experience.

TABLE VIII shows the results of the responses of the subjects to the stem, "When you are drawing a picture. . . ."

TABLE VIII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU ARE DRAWING A PICTURE. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	9	22	3	34
Kindergarten Girls	7	26	2	35
Total	16	48	5	69
Chi-Square (2 df) = .79 P > .10				
Non-Kindergarten Boys	9	19	3	31
Non-Kindergarten Girls	9	12	0	21
Total	18	31	3	52
Chi-Square (2 df) = 2.69 P > .10				
Kindergarten Girls	7	26	2	35
Non-Kindergarten Girls	9	12	0	21
Total	16	38	2	56
Chi-Square (2 df) = 4.09 P > .10				
Kindergarten Boys	9	22	3	34
Non-Kindergarten Boys	9	19	3	31
Total	18	41	6	65
Chi-Square (2 df) = .08 P > .10				

A comparison of the independent variables of sex and length of time spent in school, indicated no significant results were discovered. The chi-square statistic was employed in testing the significance of these variables. Its application here does not meet one of the assumptions of the chi-square statistic. Siegel states:[56]

> When df $>$ 1, that is, when k $>$ 2, the χ^2 test for the one sample case should not be used when more than 20 percent of the expected frequencies are smaller than 5 or when any expected frequencies is smaller than 1.

All of the cells showing the negative responses contained expected frequencies of less than five and on the basis of the quote above the reader should reserve judgment of the value of the chi-square results for this stem. Alternative possibilities for analysis of this particular question raised more theoretical problems than could be answered satisfactorily, so the chi-square statistics is reported with the above-mentioned qualifications.

TABLE IX indicates the chi-square analysis of the subject's responses to the stem "You may need help when. . . ." No significant difference was found in the comparison of any of the independent variables, in response to this stem. An analysis of the table will show that the subjects tended to give responses that were judged to be neutral in character.

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[56]Ibid., p. 46.

TABLE IX

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "YOU MAY NEED HELP WHEN. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	9	15	9	33
Kindergarten Girls	11	13	12	36
Total	20	28	21	69
Chi-Square (2 df) = .63 P > .10				
Non-Kindergarten Boys	6	15	10	31
Non-Kindergarten Girls	7	12	5	24
Total	13	27	15	55
Chi-Square (2 df) = 1.13 P > .10				
Kindergarten Girls	11	13	12	36
Non-Kindergarten Girls	7	12	5	24
Total	18	25	17	60
Chi-Square (2 df) = 1.47 P > .10				
Kindergarten Boys	9	15	9	33
Non-Kindergarten Boys	6	15	10	31
Total	15	30	19	64
Chi-Square (2 df) = .63 P > .10				

TABLE X shows the chi-square analysis of the subjects responses to the stem "If you climb very high. . . ." The table indicates that the comparison made between non-kindergarten boys and non-kindergarten girls is significant at the .10 level. It should be noted that the expected frequencies in the cells of the chi-square statistic do not meet the requirement of at least five expected frequencies in each cell. In every comparison more than twenty percent of the cells do not have the required expected frequency of five. The reader should interpret the results in the light of the reference to Siegel mentioned in connection with TABLE VIII.

TABLE XI indicates the results of the chi-square analysis of the pupils responses to the stem, "When you try to skip. . . ." None of the comparisons were found to be statistically significant at the .10 level. The answers were found to be generally negative to this stem.

TABLE XII shows the chi-square analysis of the pupils response to the stem, "The things you do in school. . . ." None of the comparisons between the variables were found to be statistically significant at the .10 level. The pupil responses to this stem, tended to represent more positive self-concepts than either neutral or negative self-concepts.

TABLE XIII exhibits the results of the chi-square analysis of the pupils responses to the stem, "The things you do in school. . . ." The stem tended to produce positive answers on all categories of the independent variables

TABLE X

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "IF YOU CLIMB VERY HIGH. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	4	23	34
Kindergarten Girls	7	4	25	36
Total	14	8	48	70
Chi-Square (2 df) = .02 P > .10				
Non-Kindergarten Boys	4	2	27	33
Non-Kindergarten Girls	7	4	13	24
Total	11	6	40	57
Chi-Square (2 df) = 5.24 P < .10				
Kindergarten Girls	7	4	25	36
Non-Kindergarten Girls	7	4	13	24
Total	14	8	38	60
Chi-Square (2 df) = 1.44 P > .10				
Kindergarten Boys	7	4	23	34
Non-Kindergarten Boys	4	2	27	33
Total	11	6	50	67
Chi-Square (2 df) = 1.79 P > .10				

TABLE XI

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU TRY TO SKIP. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	8	9	15	32
Kindergarten Girls	7	14	15	36
Total	15	23	30	68
Chi-Square (2 df) = .92 P > .10				
Non-Kindergarten Boys	5	8	20	33
Non-Kindergarten Girls	7	6	10	23
Total	12	14	30	56
Chi-Square (2 df) = 2.28 P > .10				
Kindergarten Girls	7	14	15	36
Non-Kindergarten Girls	7	6	10	23
Total	14	20	25	59
Chi-Square (2 df) = 1.38 P > .10				
Kindergarten Boys	8	9	15	32
Non-Kindergarten Boys	5	8	20	33
Total	13	17	35	65
Chi-Square (2 df) = 1.42 P > .10				

TABLE XII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "SINCE YOU HAVE BEEN GOING TO SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	14	8	9	31
Kindergarten Girls	18	13	6	37
Total	32	21	15	68
Chi-Square (2 df) = 2.30 P > .10				
Non-Kindergarten Boys	12	12	5	29
Non-Kindergarten Girls	15	5	6	26
Total	27	17	11	55
Chi-Square (2 df) = 3.08 P > .10				
Kindergarten Girls	18	13	6	37
Non-Kindergarten Girls	15	5	6	26
Total	33	18	12	63
Chi-Square (2 df) = 1.87 P > .10				
Kindergarten Boys	14	8	9	31
Non-Kindergarten Boys	12	12	5	29
Total	26	20	14	60
Chi-Square (2 df) = 2.04 P > .10				

TABLE XIII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "THE THINGS YOU DO IN SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	17	10	7	34
Kindergarten Girls	16	15	6	37
Total	33	25	13	71
Chi-Square (2 df) = 1.00 P > .10				
Non-Kindergarten Boys	10	13	8	31
Non-Kindergarten Girls	10	8	5	23
Total	20	21	13	54
Chi-Square (2 df) = 1.13 P > .10				
Kindergarten Girls	16	15	6	37
Non-Kindergarten Girls	10	8	5	23
Total	26	23	11	60
Chi-Square (2 df) = .26 P > .10				
Kindergarten Boys	17	10	7	34
Non-Kindergarten Boys	10	13	8	31
Total	27	23	15	65
Chi-Square (2 df) = 2.11 P > .10				

but none of the differences were statistically significant at the .10 level.

TABLE XIV displays the results of the chi-square analysis of the coding of the pupils responses to the stem "You would like to be able to know enough to. . . ." The answers as they were judged were found to be distributed relatively equally among the three categories. There were no statistically significant differences at the .10 level among the variables.

TABLE XV indicates the chi-square analysis of the results of the stem, "Something you have learned in school. . . ." None of the differences were found to be statistically significant at the .10 level. The responses were judged to be more positive than neutral or negative.

TABLE XVI shows the distribution of the coded responses of the pupils to the stem "The way you feel when you are trying to learn something. . . ." Three of the comparisons between the independent variables were not statistically significant at the .10 level. The comparison between the variables of kindergarten boys and kindergarten girls was significant at the .10 level. An observation of the responses indicated that girls that had a kindergarten experience tended to give more positive responses to the stem than did boys who had a kindergarten experience.

A chi-square analysis of the subjects responses to the stem, "When children go to school. . . ." is shown in TABLE

TABLE XIV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "YOU WOULD LIKE TO BE ABLE TO KNOW ENOUGH TO. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	12	8	10	30
Kindergarten Girls	15	11	10	36
Total	27	19	20	66
Chi-Square (2 df) = .25 P > .10				
Non-Kindergarten Boys	11	13	6	30
Non-Kindergarten Girls	8	11	6	25
Total	19	24	12	55
Chi-Square (2 df) = .16 P > .10				
Kindergarten Girls	15	11	10	36
Non-Kindergarten Girls	8	11	6	25
Total	23	22	16	61
Chi-Square (2 df) = 1.19 P > .10				
Kindergarten Boys	12	8	10	30
Non-Kindergarten Boys	11	13	6	30
Total	23	21	16	60
Chi-Square (2 df) = 2.24 P > .10				

TABLE XV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "SOMETHING YOU HAVE LEARNED IN SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	18	10	6	34
Kindergarten Girls	17	14	6	37
Total	35	24	12	71
Chi-Square (2 df) = .58 P > .10				
Non-Kindergarten Boys	12	13	8	33
Non-Kindergarten Girls	12	8	5	25
Total	24	21	13	58
Chi-Square (2 df) = .83 P > .10				
Kindergarten Girls	17	14	6	37
Non-Kindergarten Girls	12	8	5	25
Total	29	22	11	62
Chi-Square (2 df) = .30 P > .10				
Kindergarten Boys	18	10	6	34
Non-Kindergarten Boys	12	13	8	33
Total	30	23	14	67
Chi-Square (2 df) = 1.91 P > .10				

TABLE XVI

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "THE WAY YOU FEEL WHEN YOU ARE TRYING TO LEARN SOMETHING. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	10	5	13	28
Kindergarten Girls	21	5	6	32
Total	31	10	19	60
Chi-Square (2 df) = 6.84 P < .10				
Non-Kindergarten Boys	8	9	12	29
Non-Kindergarten Girls	10	6	6	22
Total	18	15	18	51
Chi-Square (2 df) = 2.29 P > .10				
Kindergarten Girls	21	5	6	32
Non-Kindergarten Girls	10	6	6	22
Total	31	11	12	54
Chi-Square (2 df) = 2.16 P > .10				
Kindergarten Boys	10	5	13	28
Non-Kindergarten Boys	8	9	12	29
Total	18	14	25	57
Chi-Square (2 df) = 1.32 P > .10				

XVII. The responses given by kindergarten boys and kindergarten girls were found to be statistically significant at the .05 level. The responses given by non-kindergarten boys and non-kindergarten girls were found to be statistically significant at the .10 level. The comparisons of kindergarten boys to non-kindergarten boys and kindergarten girls to non-kindergarten girls did not yield results that were significant at the .10 level. Girls at both levels of school experiences tended to give more responses that were coded as positive than boys. The responses given by boys were found to be more neutral in character.

TABLE XVIII exhibits the results of the coded responses given by the subjects to the stem, "Something you don't like about school. . . ." None of the comparisons yielded results that indicated significance of less than .10. Observation of the responses show that the children tended to give negative self-concept responses to this stem regardless of sex or school experience.

TABLE XIX shows the chi-square analysis of the responses given by the subjects to the stem, "If you don't learn to read. . . ." None of the comparisons were found to be statistically significant at the .10 level.

A comparison of the responses given to the stem, "You don't think you'll ever be able to. . . ." is given in TABLE XX. The chi-square analysis of the responses given by kindergarten boys and kindergarten girls indicated a probability of less than .01. The observable difference

TABLE XVII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN CHILDREN GO TO SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	12	9	28
Kindergarten Girls	12	18	5	35
Total	19	30	14	63
Chi-Square (2 df) = 6.38 P < .05				
Non-Kindergarten Boys	6	19	6	31
Non-Kindergarten Girls	11	8	5	24
Total	17	27	11	55
Chi-Square (2 df) = 5.27 P < .10				
Kindergarten Girls	12	18	5	35
Non-Kindergarten Girls	11	8	5	24
Total	23	26	10	59
Chi-Square (2 df) = 1.82 P > .10				
Kindergarten Boys	7	12	9	28
Non-Kindergarten Boys	6	19	6	31
Total	13	31	15	59
Chi-Square (2 df) = 2.10 P > .10				

: XVIII

F PUPILS RESPONSES TO THE STEM
T LIKE ABOUT SCHOOL. . . ."

	Student Responses			
	Positive	Neutral	Negative	Total
	5	12	15	32
	7	11	19	37
	12	23	34	69
	7	14	11	32
	5	6	14	25
Total	12	20	25	57
Chi-Square (2 df) = 3.08 P > .10				
Kindergarten Girls	7	11	19	37
Non-Kindergarten Girls	5	6	14	25
Total	12	17	33	62
Chi-Square (2 df) = .21 P > .10				
Kindergarten Boys	5	12	15	32
Non-Kindergarten Boys	5	6	14	25
Total	10	18	29	57
Chi-Square (2 df) = 1.19 P > .10				

TABLE XIX

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "IF YOU DON'T LEARN TO READ. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	11	15	33
Kindergarten Girls	6	14	13	33
Total	13	25	28	66
Chi-Square (2 df) = .58 P > .10				
Non-Kindergarten Boys	6	18	9	33
Non-Kindergarten Girls	6	11	6	23
Total	12	29	15	56
Chi-Square (2 df) = .55 P > .10				
Kindergarten Girls	6	14	13	33
Non-Kindergarten Girls	6	11	6	23
Total	12	25	19	56
Chi-Square (2 df) = .81 P > .10				
Kindergarten Boys	7	11	15	33
Non-Kindergarten Boys	6	18	9	33
Total	13	29	24	66
Chi-Square (2 df) = 3.26 P > .10				

TABLE XX

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "YOU DON'T THINK YOU'LL EVER BE ABLE TO. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	5	9	15	29
Kindergarten Girls	5	23	6	34
Total	10	32	21	63
Chi-Square (2 df) = 9.53 P < .01				
Non-Kindergarten Boys	5	12	11	28
Non-Kindergarten Girls	6	8	6	20
Total	11	20	17	48
Chi-Square (2 df) = 1.05 P > .10				
Kindergarten Girls	5	23	6	34
Non-Kindergarten Girls	6	8	6	20
Total	11	31	12	54
Chi-Square (2 df) = 4.02 P > .10				
Kindergarten Boys	5	9	15	29
Non-Kindergarten Boys	5	12	11	28
Total	10	21	26	57
Chi-Square (2 df) = 1.06 P > .10				

in these groups indicate that boys that had experienced kindergarten tended to give more negative self-concept responses than did the girls. Girls who had a kindergarten experience tended to give more neutral self-concept responses to this stem.

TABLE XXI illustrates the subject's responses to the stem, "Most of all you wish you were. . . ." None of the chi-square analysis of the responses were found to be statistically significant at the .10 level. All of the groups tended to give replies that were categorized as showing positive self-concepts.

The chi-square analysis of the pupils responses to the stem, "When the teacher scolds you. . . ." are shown in TABLE XXII. The comparison of the responses of the kindergarten boys and kindergarten girls yielded a chi-square found to be statistically significant at the .10 level. The other three comparisons were not found to be statistically significant at the .10 level.

TABLE XXIII displays the results of the comparisons of the subject's responses to the stem, "Does a boy or girl learn the most. . . ." Kindergarten boys and kindergarten girls gave responses that were found to be significant at the .05 level. The other three comparisons did not yield probabilities that were found to be less than .10.

TABLE XXIV indicates the chi-square analysis of the coded subject responses to the stem, "You wish you knew how to. . . ." Of the comparisons, none yielded statistical

TABLE XXI

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "MOST OF ALL YOU WISH YOU WERE. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	16	7	8	31
Kindergarten Girls	17	14	5	36
Total	33	21	13	67
Chi-Square (2 df) = 2.71 P > .10				
Non-Kindergarten Boys	13	9	7	29
Non-Kindergarten Girls	10	6	6	22
Total	23	15	13	51
Chi-Square (2 df) = .12 P > .10				
Kindergarten Girls	17	14	5	36
Non-Kindergarten Girls	10	6	6	22
Total	27	20	11	58
Chi-Square (2 df) = 1.84 P > .10				
Kindergarten Boys	16	7	8	31
Non-Kindergarten Boys	13	9	7	29
Total	29	16	15	60
Chi-Square (2 df) = .61 P > .10				

TABLE XXII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN THE TEACHER SCOLDS YOU. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	5	10	17	32
Kindergarten Girls	7	18	9	34
Total	12	28	26	66
Chi-Square (2 df) = 5.04 P < .10				
Non-Kindergarten Boys	11	12	10	33
Non-Kindergarten Girls	5	9	8	22
Total	16	21	18	55
Chi-Square (2 df) = 2.60 P > .10				
Kindergarten Girls	7	18	9	34
Non-Kindergarten Girls	5	9	8	22
Total	12	27	17	56
Chi-Square (2 df) = .84 P > .10				
Kindergarten Boys	5	10	17	32
Non-Kindergarten Boys	11	12	10	33
Total	16	22	27	65
Chi-Square (2 df) = 4.25 P > .10				

TABLE XXIII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "DOES A BOY OR GIRL LEARN THE MOST. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	14	9	10	33
Kindergarten Girls	9	20	7	36
Total	23	29	17	69
Chi-Square (2 df) = 6.69 P < .05				
Non-Kindergarten Boys	12	14	6	32
Non-Kindergarten Girls	7	8	10	25
Total	19	22	16	57
Chi-Square (2 df) = 3.13 P > .10				
Kindergarten Girls	9	20	7	36
Non-Kindergarten Girls	7	8	10	25
Total	16	28	17	61
Chi-Square (2 df) = 4.04 P > .10				
Kindergarten Boys	14	9	10	33
Non-Kindergarten Boys	12	14	6	32
Total	26	23	16	65
Chi-Square (2 df) = 2.20 P > .10				

TABLE XXIV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "YOU WISH YOU KNEW HOW TO. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	13	11	7	33
Kindergarten Girls	14	12	9	35
Total	27	23	16	66
Chi-Square (2 df) = .08 P > .10				
Non-Kindergarten Boys	6	17	8	31
Non-Kindergarten Girls	6	13	5	24
Total	12	30	13	55
Chi-Square (2 df) = .18 P > .10				
Kindergarten Girls	14	12	9	35
Non-Kindergarten Girls	6	13	5	24
Total	20	25	14	59
Chi-Square (2 df) = 2.45 P > .10				
Kindergarten Boys	13	11	7	31
Non-Kindergarten Boys	6	7	8	31
Total	19	28	15	62
Chi-Square (2 df) = 3.92 P > .10				

probabilities of less than the .10 level. The subjects tended to give responses that were neutral in self-concepts.

TABLE XXV shows the chi-square analysis of the coded responses given by the subjects to the stem, "When you tell your mother what you did in school. . . ." There were no statistically significant differences at the .10 level among the comparisons.

TABLE XXVI exhibits the chi-square analysis of the coded pupil's responses to the stem, "It is easy for you to pretend that. . . ." There were no statistically significant differences at the .10 level in the comparisons among the comparisons.

The chi-square analysis of the coded responses of the subjects to the stem, "You think your work at school is . . . .", is found in TABLE XXVII. A probability of less than .10 was elicited from the comparison of the responses of the kindergarten boys and kindergarten girls. The girls that had undergone a kindergarten experience tended to give more positive answers to this stem than did the boys who had similar school experiences. The other three comparisons did not yield probabilities of less than .10.

TABLE XXVIII shows the chi-square analysis of coded responses of the pupils to the stem, "When you run fast . . . ." Two comparisons of the independent variables produced a chi-square score of less than .10 level of probability. The comparison of kindergarten boys and

TABLE XXV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU TELL YOUR MOTHER WHAT YOU DID IN SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	13	10	7	30
Kindergarten Girls	13	13	7	33
Total	26	23	14	63
Chi-Square (2 df) = 1.76 P > .10				
Non-Kindergarten Boys	9	14	8	31
Non-Kindergarten Girls	9	8	5	22
Total	18	22	13	53
Chi-Square (2 df) = .78 P > .10				
Kindergarten Girls	13	13	7	33
Non-Kindergarten Girls	9	8	5	22
Total	22	21	12	55
Chi-Square (2 df) = .05 P > .10				
Kindergarten Boys	13	10	7	30
Non-Kindergarten Boys	9	14	8	31
Total	22	24	15	61
Chi-Square (2 df) = 1.46 P > .10				

TABLE XXVI

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "IT IS EASY FOR YOU TO PRETEND THAT. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	15	11	5	31
Kindergarten Girls	8	18	8	34
Total	23	29	13	65
Chi-Square (2 df) = 4.30 P > .10				
Non-Kindergarten Boys	9	17	5	31
Non-Kindergarten Girls	8	14	1	23
Total	17	31	6	54
Chi-Square (2 df) = 1.85 P > .10				
Kindergarten Girls	8	18	8	34
Non-Kindergarten Girls	8	14	1	23
Total	16	32	9	57
Chi-Square (2 df) = 3.85 P > .10				
Kindergarten Boys	15	11	5	31
Non-Kindergarten Boys	9	17	5	31
Total	24	28	10	62
Chi-Square (2 df) = 2.78 P > .10				

TABLE XXVII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "YOU THINK YOUR WORK AT SCHOOL IS. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	15	7	12	34
Kindergarten Girls	26	5	6	37
Total	42	12	18	72
Chi-Square (2 df) = 5.13 P < .10				
Non-Kindergarten Boys	15	8	8	31
Non-Kindergarten Girls	15	5	5	25
Total	30	13	13	56
Chi-Square (2 df) = 2.33 P > .10				
Kindergarten Girls	26	5	6	37
Non-Kindergarten Girls	15	5	5	25
Total	41	10	11	62
Chi-Square (2 df) = .70 P > .10				
Kindergarten Boys	15	7	12	34
Non-Kindergarten Boys	15	8	8	31
Total	30	15	20	65
Chi-Square (2 df) = .75 P > .10				

TABLE XXVIII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU RUN FAST. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	13	9	11	33
Kindergarten Girls	8	5	21	34
Total	21	14	32	67
Chi-Square (2 df) = 5.40 P < .10				
Non-Kindergarten Boys	6	6	19	31
Non-Kindergarten Girls	7	5	11	23
Total	13	11	30	54
Chi-Square (2 df) = 1.18 P > .10				
Kindergarten Girls	8	5	21	34
Non-Kindergarten Girls	7	5	11	23
Total	15	10	32	57
Chi-Square (2 df) = 1.11 P > .10				
Kindergarten Boys	13	9	11	33
Non-Kindergarten Boys	6	6	19	31
Total	19	15	30	64
Chi-Square (2 df) = 5.30 P < .10				

kindergarten girls and the comparison of the responses of kindergarten boys to the responses of boys that did not have a kindergarten experience, were found to be statistically significant. The other two comparisons were not statistically significant at the .10 level.

TABLE XXIX exhibits the chi-square analysis of the coded responses of the subjects to the stem, "When you get hurt. . . ." None of the comparisons were found to be significant at the .10 level. An analysis of the table will show that the subjects tended to respond with answers that were judged to be either positive or negative in self-concept.

TABLE XXX shows the chi-square analysis of the coded responses of the subjects to the stem, "If you don't learn things in school. . . ." None of these comparisons were found to be significant at the .10 level. The reader should be made aware of the fact that only one of the comparisons met the requirement of no less than five expected frequencies in no more than twenty percent of the cells in the table. The comparison of the responses of the kindergarten boys and non-kindergarten boys meets this requirement. The reader should judge the other chi-square statistics in the light of this information.

The chi-square analysis of the coded responses to the stem, "People say that you. . . .", yielded one comparison that was found to be significant at less than the .10 level.

TABLE XXIX

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU GET HURT. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	16	3	14	33
Kindergarten Girls	14	6	16	36
Total	30	9	30	69
Chi-Square (2 df) = 1.15 P > .10				
Non-Kindergarten Boys	15	8	8	31
Non-Kindergarten Girls	9	6	9	24
Total	24	14	17	55
Chi-Square (2 df) = 1.00 P > .10				
Kindergarten Girls	14	6	16	36
Non-Kindergarten Girls	9	6	9	24
Total	23	12	25	60
Chi-Square (2 df) = .67 P > .10				
Kindergarten Boys	16	3	14	33
Non-Kindergarten Boys	15	8	8	31
Total	31	11	22	64
Chi-Square (2 df) = 3.99 P > .10				

TABLE XXX

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "IF YOU DON'T LEARN THINGS IN SCHOOL. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	19	6	32
Kindergarten Girls	4	29	3	36
Total	11	48	9	68
Chi-Square (2 df) = 3.95 P > .10				
Non-Kindergarten Boys	4	21	4	29
Non-Kindergarten Girls	6	13	3	22
Total	10	34	7	51
Chi-Square (2 df) = 1.53 P > .10				
Kindergarten Girls	4	29	3	36
Non-Kindergarten Girls	4	21	4	29
Total	8	50	7	65
Chi-Square (2 df) = .69 P > .10				
Kindergarten Boys	7	19	6	32
Non-Kindergarten Boys	4	21	4	29
Total	11	40	10	61
Chi-Square (2 df) = 1.18 P > .10				

This is shown in TABLE XXXI. Kindergarten boys and kindergarten girls gave responses that were found to be statistically significant at less than the .10 level. The observable difference in the responses of these two groups indicate that girls tend to have more positive self-concepts concerning the opinions of others about themselves. The other three comparisons of the responses to this stem did not yield a chi-square statistic that was significant at less than the .10 level.

TABLE XXXII shows the chi-square analysis of the coded responses of the subjects to the stem, "The nicest thing about when you are a baby. . . ." None of the comparisons were significant at the .10 level of confidence. The subjects tended to give responses that were judged to be neutral in self-concept content.

TABLE XXXIII indicates the chi-square analysis of the coded responses of the subjects to the stem, "People who read lots of books. . . ." None of the comparisons of the independent variables were found to be statistically significant at the .10 level. The reader should be made aware that the only comparison of the four that meets the requirement that chi-square statistic should have at least five expected frequencies in at least twenty percent of the cells is the comparison of the responses of kindergarten boys to non-kindergarten boys. The reader should judge the chi-square statistics with the above information in mind.

TABLE XXXI

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "PEOPLE SAY THAT YOU. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	13	7	11	31
Kindergarten Girls	24	5	6	35
Total	37	12	17	66
Chi-Square (2 df) = 4.89 P < .10				
Non-Kindergarten Boys	13	7	11	31
Non-Kindergarten Girls	13	5	7	25
Total	26	12	16	56
Chi-Square (2 df) = .54 P > .10				
Kindergarten Girls	24	5	6	35
Non-Kindergarten Girls	13	5	7	25
Total	37	10	13	60
Chi-Square (2 df) = 1.71 P > .10				
Kindergarten Boys	13	7	11	31
Non-Kindergarten Boys	15	8	6	29
Total	28	15	17	60
Chi-Square (2 df) = 1.59 P > .10				

TABLE XXXII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "THE NICEST THING ABOUT WHEN YOU WERE A BABY. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	16	9	32
Kindergarten Girls	5	19	7	31
Total	12	35	16	63
Chi-Square (2 df) = .84 P > .10				
Non-Kindergarten Boys	5	19	7	31
Non-Kindergarten Girls	5	10	5	20
Total	10	29	12	51
Chi-Square (2 df) = .80 P > .10				
Kindergarten Girls	5	19	7	31
Non-Kindergarten Girls	5	10	5	20
Total	10	29	12	51
Chi-Square (2 df) = .80 P > .10				
Kindergarten Boys	7	16	9	32
Non-Kindergarten Boys	5	19	7	31
Total	12	35	16	63
Chi-Square (2 df) = .80 P > .10				

TABLE XXXIII

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "PEOPLE WHO READ LOTS OF BOOKS. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	7	19	6	32
Kindergarten Girls	4	29	3	36
Total	11	48	9	68
Chi-Square (2 df) = 3.08 P > .10				
Non-Kindergarten Boys	4	21	4	29
Non-Kindergarten Girls	6	13	3	22
Total	10	34	7	51
Chi-Square (2 df) = 1.52 P > .10				
Kindergarten Girls	4	29	3	36
Non-Kindergarten Girls	6	13	3	22
Total	10	42	6	58
Chi-Square (2 df) = 2.81 P > .10				
Kindergarten Boys	7	19	6	32
Non-Kindergarten Boys	4	21	4	29
Total	11	40	10	61
Chi-Square (2 df) = 1.22 P > .10				

TABLE XXXIV shows the chi-square analysis of the pupil's responses to the stem, "When you do something wrong. . . ." Two of the comparisons were found to be statistically significant at the .05 level of confidence. The comparison of the responses between the non-kindergarten boys to the responses of the non-kindergarten girls were found to be significant at the .05 level of confidence. Similarly, the comparison between the responses of the non-kindergarten girls to the kindergarten girls was found to be significant at the .05 level of confidence. The comparison of the responses of the kindergarten boys to the responses of the kindergarten girls was found to be significant at the .02 level of confidence. The observable difference between these groups is that the boys tended to give responses that reflected negative self-concepts and the girls tended to have self-concept responses that were judged to be positive in character.

The chi-square analysis of pupil's responses to the stem, "The nicest thing that can happen to you. . . ." is shown in TABLE XXXV. The comparison of the responses to the stem made by kindergarten boys and kindergarten girls proved to be significant at the .10 level. The other three comparisons were found to be not significant at the .10 level.

TABLE XXXIV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "WHEN YOU DO SOMETHING WRONG. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	6	8	20	34
Kindergarten Girls	18	6	13	37
Total	24	14	13	71
Chi-Square (2 df) = 8.01 P < .02				
Non-Kindergarten Boys	5	9	17	31
Non-Kindergarten Girls	7	11	5	23
Total	12	20	22	54
Chi-Square (2 df) = 6.01 P < .05				
Kindergarten Girls	18	6	13	37
Non-Kindergarten Girls	7	11	5	23
Total	25	17	18	60
Chi-Square (2 df) = 6.77 P < .05				
Kindergarten Boys	6	8	20	34
Non-Kindergarten Boys	5	9	17	31
Total	11	17	37	65
Chi-Square (2 df) = .31 P > .10				

TABLE XXXV

CHI-SQUARE ANALYSIS OF PUPILS RESPONSES TO THE STEM "THE NICEST THING THAT CAN HAPPEN TO YOU. . . ."

	Student Responses			
Independent Variables	Positive	Neutral	Negative	Total
Kindergarten Boys	11	10	12	33
Kindergarten Girls	10	19	6	35
Total	21	29	18	68
Chi-Square (2 df) = 4.94 P < .10				
Non-Kindergarten Boys	6	16	7	29
Non-Kindergarten Girls	5	10	6	21
Total	11	26	13	50
Chi-Square (2 df) = 2.43 P > .10				
Kindergarten Girls	10	19	6	35
Non-Kindergarten Girls	5	10	6	21
Total	15	29	12	56
Chi-Square (2 df) = 1.00 P > .10				
Kindergarten Boys	11	10	12	33
Non-Kindergarten Boys	6	16	7	29
Total	17	26	19	62
Chi-Square (2 df) = 3.93 P > .10				

Summary

The contingency coefficient C was used to determine the significance of the coding of the responses done by the principal investigator and an independent rater. The results were significant at the .01 level. The contingency coefficient C between the original codings of the principal investigator and his re-codings, done a month later was .75. The contingency correlation C of the codings of the independent rater and retest scores of the principal investigator was .71. The contingency coefficient C between the codings of the principal investigator's original codings and the independent coder's ratings was .74. The contingency coefficient upper limit is a function of the number of categories. The maximum value that can be attained on a three by three table is .816. From this standard, values of .75, .71, and .74 are relatively high.

The chi-square statistic was applied to the codings of the replies of the children. TABLE XXXVI is a summary of the chi-square results for all of the stems used with the subjects. Four of the stems did not produce answers that were judged to be sufficiently distributed over the ratings to meet some of the limitations of the chi-square statistic. Two of the stems were found, in the pilot study, to lend themselves well to "warm-up" questions for the subjects. This left twenty-four stems to which the

TABLE XXXVI

A SUMMARY TABLE OF THE CHI-SQUARE RESULTS

Stem	Group Comparisons: K. Boys- K. Girls	NK. Boys- NK. Girls	K. Girls- NK. Girls	K. Boys- NK. Boys
When you are drawing a picture.....(1)	.79	2.69	4.09	.08
You may need help when.....	.63	1.13	1.47	.63
If you climb very high.....(1)	.02	5.24*	1.44	1.79
When you try to skip.....	.92	2.28	1.38	1.42
Since you have been going to school...	2.30	3.08	1.87	2.04
The things you do in school.....	1.00	1.13	.26	2.11
You would like to be be able to know enough to.....	.25	.16	1.19	2.24
Something you have learned in school.	.58	.83	.30	1.91
The way you feel when you are trying to learn something.....	6.84**	2.29	2.16	1.32
When children go to school.....	6.38**	5.27*	1.82	2.10
Something you don't like about school.	.50	3.08	.21	1.19
If you don't learn to read.....	.58	.55	.81	3.26
You don't think you will ever be able to.....	9.53**	1.05	4.02	1.06
Most of all you wish you were.....	2.71	.12	1.84	.61
When the teacher scolds you.....	5.04*	2.60	.84	4.25
Does a boy or a girl learn the most....	6.69**	3.13	4.04	2.20
You wish you knew how to.....	.08	.18	2.45	3.92

TABLE XXXVI (Continued)

Stem	Group Comparisons			
	K. Boys- K. Girls	NK. Boys- NK. Girls	K. Girls- K. Boys	NK. Girls- NK. Boys
When you tell your mother what you did in school.....	1.76	.78	.05	1.46
It is easy for you to pretend.....	4.30	1.85	3.85	2.78
You think your work at school is.....	5.13*	2.33	.70	.75
When you run fast...	5.40*	1.18	1.11	5.30*
When you get hurt...	1.15	1.00	.67	3.99
If you don't learn things in school(1)	3.95	1.53	.69	1.18
People say that you..	4.89*	.54	1.71	1.59
The nicest thing about when you were a baby.....	.84	.80	.80	.80
People who read lots of books.....(1)	3.08	1.52	2.81	1.22
When you do something wrong.....	8.01**	6.01**	6.77**	.31
The nicest thing that can happen to you.....	4.94*	2.43	1.00	3.93

(1) Chi-square statistic does not meet all the requirements of a valid chi-square.

* Significant at the .10 level of confidence

** Significant at the .05 level of confidence

subjects responded in such a manner that valid chi-square statistics could be obtained. Of these twenty-four, ten were found to produce significant results in comparisons of the responses of boys and girls that had kindergarten experience. Two stems produced differences in responses of boys and girls that did not have a kindergarten experience. Another stem produced answers that were judged to be different at a significant level between boys that did not have a kindergarten experience and boys that had kindergarten experience. The significance of these findings is reported in the next chapter.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER STUDY

Review of Purpose and Design

Considerable evidence--test scores, research, and opinions of elementary teachers--was presented to substantiate the fact that boys do not achieve as well as girls do in elementary schools. Some evidence indicates that as far back as 1909 investigators were concerned about the lack of achievement of boys in school. Many authorities in the field of reading have done much work in attempting to discover the reason for the large number of boys compared to girls in remedial reading classes. Another area that indicates that girls achieve at a higher level than boys in elementary schools is the fact that girls are consistently assigned higher grades than are boys. In addition to the above mentioned facts, a larger percentage of boys suffer retention at a grade level than do girls.

This study was suggested by the findings that in the upper grades of school, there tends to be a positive association between academic achievement and measures of the self-concept of the individual child. Considerable evidence

was presented concerning reports on self-concept and academic achievement. In general, they support the position that self-concept and academic achievement are related. Despite the many views among investigators as to the nature of self-concept, it was operationally defined. Some caution should be exercised, however. A few investigators have found that a straight educational approach to learning problems was indicated.

The present study is an exploratory one designed to gather data to determine if boys and girls enter school with relatively the same self-concept level. Measuring children of relatively the same age level and in the same grade in school, but who have had a different length of time in school should yield some evidence if school experiences substantially affect self-concepts.

Four hypotheses were established for the present study and a research design was developed to test each hypothesis of difference in self-concept level as follows:

Boys with no kindergarten and boys with kindergarten experience.

Girls with no kindergarten and girls with kindergarten experience.

Boys with kindergarten and girls with kindergarten experience.

Boys with no kindergarten and girls with no kindergarten experience.

No standardized measuring device existed for measuring self-concept of children at the first grade level of school. A content analysis procedure that had been developed by other investigators was adapted for this study. A pilot study was done to test this procedure with first grade children. Thirty stems were used and it was found that the instrument did discriminate between children that were judged by their teacher to have high and low self-concepts. The procedure was to place the interview with the child on a tape and then at a later time play back the transcription. On the basis of stated criteria, the responses of the child were divided into thought units and then the thought units were judged to be either a positive, neutral, or negative self-concept.

Sixteen children were used in the pilot study. An item analysis was done on the responses and as a result, two of the stems were found to be not discriminatory. These stems were kept in the interview but were used as warm-ups and the responses to these stems were not used in the final study. A chi-square statistic was applied to the results of the pilot study and the instrument and procedure was found to discriminate between boys and girls who were judged to have high and low self-concepts by their teachers. The probability was less than .005.

The population from which the study was drawn were first grade children in schools in North Central Oklahoma. The school situation in Oklahoma is such that a measure

of self-concept could be obtained on boys and girls, some of whom had longer school experiences than others. Approximately one-half of the girls and one-half of the boys in the study had kindergarten experience while the other half did not.

Usable interviews were obtained from one hundred twenty nine subjects. These subjects were divided by the two independent variables, sex and length of school experience. These pupils were chosen from four elementary schools in three towns and cities in North Central Oklahoma.

The process mentioned above in judging the reponses of the children in the study were those that were found to be successful in the pilot study and were described above. A random selection method was used to determine which of the children in the first grades in the schools would be used. A random sample was used because of the fact that the procedure was quite time consuming and because random selection provides more appropriate use of statistics for estimating experimental error. In all, ten classrooms with a total enrollment of 278 children were used.

The interviews were conducted over a six weeks period of time. A time lapse was provided before the coding of the response took place to lessen the effect of the climate of the interview upon the principal investigator.

Summary of Major Findings

Kindergarten Boys--Kindergarten Girls

A total of twenty-four valid chi-square tests were applied to the stems that were asked of these two groups. The ten following stems produced responses from these two groups that were statistically significant at the .10 level.

The way you feel when you are trying to learn something. . . .

When children go to school. . . .

You don't think that you'll ever be able to. . . .

Does a boy or a girl learn the most. . . .

You think your work at school is. . . .

When you run fast. . . .

People say that you. . . .

When you do something wrong. . . .

The nicest thing that can happen to you. . . .

The other fourteen stems did not produce results that were found to be statistically significant. In considering the variable of length of time in school a comparison between the kindergarten boys, kindergarten girls groups and the non-kindergarten girls, non-kindergarten boys groups, some direction can be seen. Of the ten stems reported above, all had higher probability figures than did the chi-square statistic for the non-kindergarten boys, non-kindergarten girls comparison. In addition seven of the other

fourteen stems produced higher chi-square critical values in the kindergarten boys, kindergarten girls comparison than were produced by the non-kindergarten boys, non-kindergarten girls comparisons.

Non-Kindergarten Boys--Non-Kindergarten Girls

A total of twenty-four valid chi-square tests were applied to the responses of the above groups to the stems. The two following stems produced responses from these two groups that were statistically significant at the .10 level.

When children go to school. . . .

When you do something wrong. . . .

The other twenty-two comparisons between non-kindergarten boys and non-kindergarten girls did not produce results that were significant at the .10 level.

The stem, "When you do something wrong. . . ." produced results that were significant in both of the comparisons. However, the critical values of chi-square show a greater difference in the comparison of kindergarten boys and kindergarten girls.

Kindergarten Girls--Non-Kindergarten Girls

Of the twenty-four stems that produced valid chi-square statistics, only one proved to be significant at the .10 level. This stem was, "When you do something wrong. . . ." This stem produced responses that were coded and resulted in chi-square figures that were significant at the .10 level in three of the four contrasts. A comparison of kindergarten boys to kindergarten girls produced the highest

chi-square value. The other twenty-three stems did not produce results that were significant at the .10 level.

Kindergarten Boys--Non-Kindergarten Boys

The twenty-four comparisons made for these two groups produced only one that was significant at the .10 level. The stem, "When you run fast. . . ." induced responses from both the kindergarten boys and kindergarten girls comparison and the present one under discussion. The chi-square figure for the kindergarten boys, kindergarten girls comparison was the highest, indicating direction toward that group.

Conclusions

This study was started as an exploratory one to find out whether there existed evidence as to the link between self-concept and the sex of the child. It must be pointed out that the levels of confidence with which the hypothesis can be judged are by no means dramatic. What has been found is some indication of direction. The analysis appears to justify the following statements:

1. There does not seem to be a measurable difference in self-concept level, using the present instrument, between boys and girls in their self-concepts about themselves as they enter school.

2. There does not seem to be a measurable difference in self-concept level, using the present instrument, between girls who have had a greater length of time in

school compared to girls that have less time in school.

3. There does not seem to be a measurable difference in self-concept level, using the present instrument, between boys who have spent a greater length of time in school than boys who have spent less time in school.

4. There is a trend to indicate that, using the present instrument, there is a greater difference in the comparison of self-concepts levels of first grade boys and girls that have had a kindergarten experience than the comparisons of children in the other groups.

It must be emphasized that the findings of this study should be regarded as preliminary. The results suggest that this area should be investigated further. The crude nature of the instrument employed in the collection of the data limit the extent to which generalizations and conclusions can be drawn from the analysis. Of prime importance would be the development of less cumbersome techniques for measuring self-concepts of primary school age children. These should be devised, validated, and cross-validated. The instrument used in this study may be acceptable for exploratory purposes but it is costly in time and money to permit research with the size of samples that would give a study greater inferential scope.

Implications

The trends indicated in this study show that the

school environment may be altering the self-concepts of the boys and girls at the first grade level of school.

There are several possibilities implied in this occurrence. First, the school environment could be such that it raises the self-concept level of the girls while not materially aiding the self-concept of the boys. Second, the primary school environment could be depressing the self-concept level of the boys while not materially changing the self-concept level of the girls. Third, the environment of the school could be depressing the self-concept level of the boys and at the same time raising the self-concept level of the girls. Nothing in this study indicates in any respect which of the three possibilities mentioned above is occuring.

Suggestions for Further Study

The conclusions and implications of the present study suggest more refined and intensive investigations should consider the following recommendations:

1. An attempt should be made to develop an instrument to measure self-concept among children of primary school age. Perhaps one developed along the lines of the Thematic Apperception Test might be feasible.

2. Longitudinal studies should be attempted that would extend over several years of the child's school experience. If it is true that school does affect the self-concept of the child, then studies should be made

that will follow a group of children through their elementary school life.

3. Studies should be made that attempt to control the climate of the classroom in terms of male and female values. Since this study did show that there might be some difference between the self-concept levels of boys and girls after some time in school, then a study in which the classroom was controlled for male and female values might show if these values would affect self-concept.

4. Studies should be attempted that show the relationship of the self-concept of the primary school child and its relationship to his achievement in the classroom. Many studies have shown a relationship between self-concept and achievement at higher grade levels. Longitudinal studies would tend to show if this same relationship holds true at the primary level of school.

SELECTED BIBLIOGRAPHY

Allport, G. W., "The Ego in Contemporary Psychology," Psychological Review, 1943, 50, 451-478.

Ayres, Leonard, Laggards in Our Schools. New York: Russell Sage Foundation, 1909.

Bieri, J., and Trieschman, A., "Learning as a Function of Perceived Similarity to Self," Journal of Personality, 1956, 25, 213-223.

Bills, R. E., "Non-Directive Play Therapy with Retarded Readers," Journal of Consulting Psychology, 1950, 14, 140-149.

Blanchard, Phyllis, "Reading Difficulties in Relation to Difficulties of Personality and Emotional Development," Mental Hygiene, 1936, 20, 384-413.

Block, J., and Thomas, H., "Is Satisfaction with Self a Measure of Adjustment?", Journal of Abnormal and Social Psychology, 1955, 51, 154-259.

Bodwin, R. F., "The Relationship Between Immature Self-Concept and Certain Educational Disabilities," Dissertation Abstracts, 1959, 19, 1645-1646.

Bruck, Max, "A Study of Age Difference and Sex Difference in the Relationship Between Self-Concept and Grade Point Average," Dissertation Abstracts, 19, 1959, 1645-1646.

Cartwright, D. S., "Self Consistency as a Factor Affecting Immediate Recall," Journal of Abnormal and Social Psychology, 1956, 52, 212-218.

Castner, B. M., "Prediction of Reading Disability Prior to First Grade Entrance," American Journal of Orthopsychiatry, 1935, 5, 25-26.

Chickering, A. W., "Self-Concept, Ideal Self-Concept and Achievement," Dissertation Abstracts, 1958, 169.

Coopersmith, S., "A Method for Determing Types of Self-Esteem," Journal of Abnormal and Social Psychology, 1959, 59, 87-94.

Cowen, E. L., Heilizer, F., and Axelrod, H. S., "Self-Concept, Conflict Indicators and Learning," Journal of Abnormal and Social Psychology, 1955, 51, 242-245.

Diller, L., "Conscious and Unconscious Self-Attitudes After Success and Failure," Journal of Personality, 1954-55, 23, 1-12.

Doris, J., and Sarason, S., "Test Anxiety and Blame Assignment in a Failure Situation," Journal of Abnormal and Social Psychology, 1955, 50, 335-338.

Erickson, E. H., Childhood and Society. New York: W. W. Norton, 1950.

Erickson, Erik H., "Identity and the Life Cycle," Psychological Issues, 1959, 1, 1.

Fabian, A. A., "Reading Disability: An Index of Pathology," American Journal of Orthopsychiatry, 1955, 25, 319-29.

Fernald, G., Remedial Techniques in Basic School Subjects. New York: McGraw-Hill, 1943.

Fink, Martin B., "Self-Concept as it Relates to Academic Underachievement," California Journal of Educational Research, 13, 1962, 57-62.

Freud, S., Psychopathology of Everyday Life. New York: Random House, 1938.

Gann, E., Reading Difficulty and Personality Organization. New York: King's Crown Press, 1945.

Garrett, Henry E., Statistics in Psychology and Education. New York: David McKay Company, Inc., 1962.

Gates, A. I., "The Role of Personality Maladjustment in Reading Disability," Journal of Genetic Psychology, 1941, 59, 77-83.

Gesell, A., and Ilg, F., The Child From Five To Ten. New York: Harper, 1946.

Gordon, I. J., and Combs, W., "The Learner: Self and Perception," Review of Educational Research, 1958, 28, 433-444.

Havighurst, R. J., Developmental Tasks and Education. Chicago: University of Chicago Press, 1948.

Heilman, Arthur W., Principles and Practice of Teaching Reading. Columbus: Charles R. Merrill Books, Inc., 1961.

Hughes, Mildred C., "Sex Differences in Reading Achievement in the Elementary Grades," Clinical Studies in Reading II, Supplementary Educational Monographs, Chicago: University of Chicago Press, No. 77, 102-7.

Jackson, Joseph, "A Survey of Psychological, Social and Environmental Differences Between Advanced and Retarded Readers," Journal of Genetic Psychology, 1944, 65, 113-31.

James, William, Principles of Psychology. New York: Holt, 1890, 2 vols.

Jersild, A. T., In Search of Self. New York: Bureau of Publications, Teachers College, Columbia University, 1952.

Meyer, George, "Some Relationships Between Rorschach Scores in Kindergarten and Reading in the Primary Grades," Journal of Projective Techniques, 1953, 17, 414-425.

Miller, K. S., and Worchel, P., "The Effects of Need-Achievement and Self-Ideal Discrepancy on Performance Under Stress," Journal of Personality, 1956, 25, 176-190.

Monroe, Marion, Children Who Cannot Read. Chicago: University of Chicago Press, 1932.

Moustakas, C. E., The Teacher and the Child. New York: McGraw-Hill, 1956.

Nila, Sister Mary, "Foundations of a Successful Reading Program," Education, 1963, 73, 543-55.

Nuthmann, Anne, "Conditioning of a Response Class on a Personality Test," Journal of Abnormal and Social Psychology, 1957, 50, 87-92.

Overstreet, P. L., "Factors Associated With the Quality of Self-Evaluations," Dissertation Abstracts, 1959, 20, 761-762.

Perkins, H. V., "Factors Influencing Change in Children's Self-Concepts," Child Development, 1958, 29, 203-220.

Prescott, George A., "Sex Difference in Metropolitan Reading Test Results," Journal of Educational Research, 1955, 48, 605-10.

Preston, Mary J., "Reading Failure and the Child's Security," American Journal of Orthopsychiatry, 1940, 239-352.

Reeder, T. A., "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement and Classroom Adjustment," Dissertation Abstracts, 1955, 15, 2472.

Robinson, H. M., Why Pupils Fail in Reading. Chicago: University of Chicago Press, 1946.

Rogers, C., Client-Centered Therapy. New York: Houghton Mifflin, 1951.

Rogers, C., and Dymond, R. (Eds.), Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954.

Sarbin, T. R., "Contributions to Role Taking Theory III: A Preface to the Psychological Analysis of the Self," Psychological Review, 1952, 59, 11-22.

Sears, P. S., "Level of Aspiration in Academically Successful and Unsuccessful Children," Journal of Abnormal and Social Psychology, 1940, 35, 498-536.

Sears, P. S., "Problems in the Investigation of Achievement and Self-Esteem Motivation," in M. R. Jones (Ed.), Nebraska Symposium on Motivation, 1957. Lincoln: University of Nebraska Press, 1957.

Seay, L. C., A Study to Determine Some Relations Between Changes in Reading Skills and Self-Concepts Accompanying a Remedial Program for Boys With Low Reading Ability and Reasonably Normal Intelligence. Ph.D. Dissertation, North Texas State College, 1960.

Sherif, M., and Cantril, H., The Psychology of Ego-Involvements. New York: Wiley, 1947.

Smith, G. M., "Six Measures of Self-Concept, Discrepancy and Instability: Their Interrelationships, Reliability and Relations to Other Personality Measures," Journal of Consulting Psychology, 1958, 22, 101-112.

Siegel, Sidney, Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, Inc., 1956.

Snygg, D., and Combs, A. W., Individual Behavior. New York: Harper, 1949.

Spache, G., "The Learner's Concept of Self," American Council on Education Studies, 1949, 13 (35), 97-99.

Spache, G. D., "Personality Characteristics of Retarded Readers as Measured by the Picture-Frustration Test," Educational and Psychological Measurement, 1954, 14, 186-192.

Spicola, R. F., An Investigation into Seven Correlates of Reading Achievement Including the Self-Concept. Ph.D. Dissertation, Florida State University, 1960.

Solley, C. M., and Stagner, R., "Effects of Magnitude of Temporal Barriers, Type of Goal, and Perception of Self," Journal of Experimental Psychology, 1956, 51, 62-70.

Starkweather, Elizabeth and Cowling, Frieda, "The Measurement of Conforming and Nonconforming Behavior in Preschool Children," Proc. of the Oklahoma Academy of Science, 44, 1963, 168-180.

Stolz, L. M. et al, Father Relations of War-Born Children. Stanford: Stanford University Press, 1954.

Stotland, E., Thorley, S., Thomas, E., Coehn, A. R., and Zander, A., "The Effects of Group Expectations and Self-Esteem Upon Self-Evaluation," Journal of Abnormal and Social Psychology, 1957, 54, 55-63.

Stroud, J. B., and Lindquist, E. F., "Sex Differences in Achievement in the Elementary and Secondary Schools," Journal of Educational Psychology, 1942, 657-667.

Sullivan, H. S., The Interpersonal Theory of Psychiatry. New York: Norton, 1953.

Symonds, P. M., The Ego and the Self. New York: Harper, 1949.

Taylor, Fred T., Encyclopedia of Educational Research. (Ed.) Chester W. Harris, New York: The Macmillian Co.

Van Dalen, Deobold B., Understanding Educational Research. New York: McGraw-Hill Book Company, Inc., 1962.

Wallis, W. Allen, and Roberts, Harry V., Statistics, A New Approach. Brooklyn: The Free Press of Glencoe, Inc., 1956.

Walsh, A. M., Self-Concepts of Bright Boys With Learning Difficulties. New York: Bureau of Publications, Teachers College, Columbia University, 1956.

Wattenburg, Wayne and Clifford, Claire, "Relationship of the Self-Concept to Beginning Achievement in Reading," Child Development, 30, 1964, 461-467.

Wilking, S. V., "Personality Maladjustment as a Causative Factor in Reading Disability," Elementary School Journal, 1941, 42, 268-279.

Wylie, Ruth, The Self-Concept. Lincoln: University of Nebraska Press, 1961.

Zelen, S. L., "Acceptance and Acceptability. An Examination of Social Reciprocity," Journal of Consulting Psychology, 1954, 18, 316.

APPENDIX A

RATING INSTRUCTIONS

Please rate each child on your estimate of:

(1) How competent he seems to think he is,
(2) His "SELF" (Ego) strength.

RATING SCALES:

COMPETENCE:
0 - Child seems to feel entirely incompetent
1 - Child has a low opinion of his ability most of the time
2 - Child has an average opinion of his ability
3 - Child is above average in his opinion of his own ability
4 - Child is very confident
5 - Child has an excessively high opinion of his ability

"SELF" (Ego) STRENGTH:

A strong "self-concept" strength would be shown by a child who seems to act on a fairly good estimate of reality, who is able to stick with a task, and who can use spontaneous imagination. (Weakness in any or all of the above would be a sign of a weak self.)

0 - Ego so weak that emotional difficulties may develop in the future.
1 - Ego is weak, but not to the point where the child would be considered unusual.
2 - Ego is strong and healthy.

Child's Name	Competence	Ego Strength	Child's Name	Competence	Ego Strength

APPENDIX B

DATA COMPLIATION SHEET

1. When you are drawing a picture_____
2. You may need help when_____
3. If you climb very high_____
4. When you try to skip_____
5. Since you have been going to school_____
6. The things you do in school_____
7. You would like to be able to know enough to_____
8. Something you have learned in school_____
9. The way you feel when you are trying to learn something_____
10. When children go to school_____
11. What you do best on the playground_____
12. Something you don't like about school_____
13. If you don't learn to read_____
14. You don't think you'll ever be able to _____
15. Most of all you wish you were_____
16. When the teacher scolds you_____
17. Does a boy or girl learn the most_____
18. You wish you knew how to_____
19. When you tell your mother what you did in school_____
20. It is easy for you to pretend that_____
21. You think your work at school is_____
22. When you run fast_____
23. When you get hurt_____
24. If you don't learn things in school_____
25. Your friends say_____
26. People say that you_____
27. The nicest thing about when you were a baby_____
28. People who read lots of books_____
29. When you do something wrong_____
30. The nicest thing that can happen to you_____

APPENDIX C

SAMPLE INTERVIEW

In order that the reader may have a more accurate impression of the nature of the material elicited during the interviews, an example of an interview is given below. The interviewer's remarks and questions are underlined.

I have some cards here, Vicky, that we are going to use. When I start to say something I want you to finish it. For example, if I would say, "Your name is....What would you say?

Vicky.

Vicky what?

Vicky_____.*

If I ask you what you do best on the playground?

Mmmmm..ah...play and run around.

When you are drawing a picture

Ah...you color it.

You may need help when

I do arithmetic.

If you climb very high

Ah, you can see over the whole neighborhood.

When you try to skip

Ah, you move your legs up and down.

Since you have been going to school

Ah, I've learnt.

The things you do in school

Mmmm, when you answer the questions, its fun.

---

* The subject responded with her first and last name. The last name is withheld here to protect the anonymity of the subject.

SAMPLE INTERVIEW (Continued)

You would like to be able to know enough to

Fly an airplane.

Something you have learned in school

Ah, I haf ta work.

The way you feel when you are trying to learn something

Umm, ah, goofed up.

When children go to school

Ah, they learn.

Something you don't like about school

Ahh, don't like to read.

If you don't learn to read

Um, ahh, you get in trouble, I mean you don't get to go to second grade.

You don't think you'll ever be able to

Write.

Most of all you wish you were

Grown up.....a grown up.

When the teacher scolds you

I feel unhappy.

Does a boy or a girl learn the most?

Wow!! that's kinda hard. Well, boys do.

You wish you knew how to

Write.

When you tell your mother what you did in school

She gets mad at you.

SAMPLE INTERVIEW (Continued)

It is easy for you to pretend that

That....ah..., I am a Indian.

You think your work at school is

Umm, fun.

When you run fast

Let's see.....ah, sometimes I fall down.

Your friends say

They....ah.... say 'Hi'.

When you get hurt

Ah, you call for help.

If you don't learn things in school

You can never go to second grade.

People say that you

Ah, look like my uncle.

The nicest thing about when you were a baby

Umm...ah, you didn't have to do work.

People who read lots of books

Like to.

When you do something wrong

Ya get laughed at.

The nicest thing that can happen to you

Ah, recess.

APPENDIX D

ITEM ANALYSIS OF RESPONSES GIVEN BY CHILDREN IN PILOT STUDY (Continued)

Stem	Positive Responses	Neutral Responses	Negative Responses
When the teacher scolds you.....	1	10	5
Does a boy or a girl learn the most.....	4	7	5
You wish you knew how to.....	2	11	2
When you tell your mother what you did in school.....	6	7	3
It is easy for you to pretend.....	3	13	0
You think your work at school is.....	9	4	3
When you run fast.....	4	0	12
When you get hurt.....	4	4	8
If you don't learn things in school.....	1	5	10
Your friends say.....	3	12	1
People say that you.....	6	8	2
The nicest thing about when you were a baby.....	3	10	3
People who read lots of books.....	2	11	3
When you do something wrong.....	3	7	6
The nicest thing that can happen to you.....	3	9	4

ITEM ANALYSIS OF RESPONSES GIVEN BY CHILDREN IN PILOT STUDY

Stem	Positive Responses	Neutral Responses	Negative Responses
When you are drawing a picture.....	6	10	0
You may need help when....	0	10	6
If you climb very high....	3	0	13
When you try to skip.....	3	3	10
Since you have been going to school.....	9	5	2
The things you do in school.....	2	12	2
You would like to be able to know enough to....	6	9	1
Something you have learned in school.....	5	10	0
The way you feel when you are trying to learn something.....	9	3	4
When children go to school	3	11	2
What you do best on the playground.....	1	15	0
Something you don't like about school.....	2	9	5
If you don't learn to read	2	11	3
You don't think you'll ever be able to.....	1	9	6
Most of all you wish you were.....	5	9	2

APPENDIX E

Office of Elementary Principal
_____Public Schools
_____, Oklahoma

Dear Parent,

A doctoral candidate in education at Oklahoma State University is interested in interviewing some first grade boys and girls at the_____school.

These interviews will be conducted in other schools in north central Oklahoma and the investigator would like to include some children from the _____school. This is not a test. During the interview the child will be asked to draw a picture of a man and a woman and then will be asked a series of questions that deal with school life.

Not all children will be interviewed and those selected will be selected at random. No record will be kept of the child's name. The interview will be placed on magnetic tape for analysis at a later time. These interviews have been lasting about 20 minutes in length.

If you would prefer that your child <u>not</u> participate in this study, please sign the blank on the next page, send it back to school to your child's teacher and your wishes will be respected.

Sincerely yours,

Elementary Principal

Dear Sir:

It is my wish that my child not be interviewed for the study mentioned above. Thank you for consulting me and respecting my wishes in this matter.

_____
Signature

_____
Child's Name

VITA

James Merrill Comer

Candidate for the Degree of

Doctor of Education

Title: A STUDY OF THE SELF-CONCEPT LEVELS OF BOYS AND GIRLS AT THE FIRST GRADE LEVEL OF SCHOOL

Major Field: Educational Administration

Biographical:

Personal Data: Born at Moline, Illinois, April 4, 1926, the son of Merrill A. and Ruth C. Comer.

Education: Attended grade school at Bussey, Iowa; graduated from Bussey Consolidated High School, in 1944; received the Bachelor of Arts Degree from Simpson College, Indianola, Iowa, with majors in Social Science and Physical Education in May, 1948; received the Master of Arts Degree from the University of Iowa with a major in Physical Education in August, 1953; received a Certificate of Specialization in School Administration from Drake University in September, 1962; completed the requirements for the Doctor of Education Degree in August, 1965.

Professional Experience: Appointed classroom teacher of social science at Mitchellville High School, Mitchellville, Iowa in 1948; appointed high school principal at Bussey Consolidated High School, Bussey, Iowa in 1950; appointed high school social science teacher at Knoxville High School, Knoxville, Iowa in 1954; appointed supervising principal, elementary schools in Knoxville, Iowa in 1957; appointed educational consultant for the Jasper County Schools, Newton, Iowa in 1963; appointed graduate assistant at the Oklahoma State University in 1964.