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A CORRELATIVE ANALYSIS OF READING ACHIEVEMENT,
READING ATTITUDE, HOME LITERARY ENVIRONMENT,
AND SELF-CONCEPT IN THE MIDDLE SCHOOL

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

Carole Smithers Talan

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DEDICATED

To my son David, who understood
when my studies had to come first
and who loved me anyway. He
sacrificed the most.

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ABSTRACT

The purposes of this study were to determine whether reading attitude, specific aspects of home literary environment, reading achievement, and self-concept are correlated to any significant degree, and to determine whether factors such as sex and grade level significantly affect the correlations.

The subjects included 163 sixth, seventh, and eighth grade students in Greeneville, Tennessee. The children used in the study were those who chose to participate and who were able to acquire parental permission. The Mikulecky Behavioral Reading Attitude Measure and the Tennessee Self Concept Scale were administered to all participating students. Data concerning home literary environment were acquired through the administration of a researcher-made questionnaire. The Reading Achievement score from the Stanford Achievement Tests was used to determine the reading achievement of the sample population.

After the data were collected, several statistical analyses were conducted. These included: the Pearson Correlation coefficients, a Two-Way Factorial Analysis of Variance, the Duncan's Multiple Range Test, and multiple regression analyses using a stepwise, forward linear regression technique. The findings were:

1. There was a significant correlation between reading attitude and number of nonschool required books read the previous year, number of books owned, amount read to as a child, amount of newspaper read on a daily basis, and reading achievement, $p \leq .01$.

2. Reading attitude can be predicted with 67% of the variance accounted for for females in Grade 7 and with 62% for females in Grade 8.

3. There was a significant correlation between amount read to as a child and number of books owned, self-concept, reading achievement, number of magazines in the home monthly, and amount of newspaper read daily, $p \leq .01$.

4. Amount read to as a child can be predicted with 70% of the variance accounted for for females in Grade 7 and with 50% for males in Grade 7.

5. There was a significant correlation between number of books owned and number of books read, reading attitude, amount read to as a child, reading achievement, and amount of newspaper read daily, $p \leq .01$.

6. Number of books owned can be predicted with 73% of the variance accounted for for females in Grade 8.

7. There was a significant correlation between the number of magazines in the home monthly and amount read to as a child, $p \leq .01$.

8. There was a significant correlation between number of nonschool required books read the previous year and

number of books owned, reading attitude, reading achievement, and amount of newspaper read daily, $p \leq .01$.

9. Number of nonschool required books read the previous year can be predicted with 57% of the variance accounted for for Grade 7, with 64% for females in Grade 6, with 73% for females in Grade 8, and with 90% for females in Grade 7.

10. There was a significant correlation between amount of newspaper read on a daily basis and reading achievement, number of books owned, reading attitude, number of books read in the previous year, and amount read to as a child, $p \leq .01$.

11. There was a significant correlation between reading achievement and number of books read, number of books owned, amount of newspaper read daily, amount read to as a child, and reading attitude, $p \leq .01$.

12. Reading achievement can be predicted with 50% of the variance accounted for for females in Grade 7.

13. There was a significant correlation between self-concept and amount read to as a child, $p \leq .01$.

14. Self-concept did not correlate significantly with reading achievement or reading attitude.

Recommendations were made for future studies concerning the relationships between self-concept and amount read to as a child, studies involving the same eight variables but

with other sample populations, and more long term studies involving these eight variables.

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CHAPTER I

INTRODUCTION

I. STATEMENT OF THE PROBLEM

Two of the major goals of the school are to help the student acquire basic skills and to enhance the child's self-image and thus his ability to interact fruitfully with society. Reading is both one of the basic skills and one of the methods through which the school influences the child's concept of self. The present educational structure in America, however, does not appear to be successfully fulfilling either of these major goals. This contention is widely supported by the declining scores on standardized tests (Shane, 1977; Savage, 1978) and the increase in the number of high school graduates who are unable to read and write at a literacy level (Martinez, 1977; Pilkington, 1977).

Problem

Many educators and psychologists (Witty, 1950; Roth, 1959; Dechant, 1970; Rogers, 1951; Lecky, 1945; and others) advocate the theory that the way a child feels, both about himself and about a particular learning task, greatly affects his ability to perform that task. Thus, the way a child feels about himself (self-concept) and the way he feels about

a particular task (attitude) should and must be taken into consideration in every learning situation.

This notion is particularly relevant to the field of reading, because although reading is primarily a solitary activity, it is one of the more complex functions of the human organism, involving not just the brain or motor skills but the total organism. The difficulty is not just one of convincing educators of the importance of self-concept, reading attitude, and home literary environment to reading achievement. It is also one of determining just how important these factors are, how they specifically relate to each other, and how this information can be used to improve existing reading programs.

Purpose of the Study

The purpose of this study was to determine what, if any, relationships exist among self-concept (SC), reading attitude (MBRAM), reading achievement (RDACH), and specific aspects of home literary environment [amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), and amount of newspaper read on a daily basis (NWSRD)]. By discovering the nature of these relationships for the sixth, seventh, and eighth grade students at Greeneville Middle School in Greeneville, Tennessee, the researcher hopes to establish a data basis for additional studies.

The students' attitudes were measured by the Mikulecky Behavioral Reading Attitude Measure and their self-concept scores were determined by the Tennessee Self Concept Scale. The scores from these instruments were then correlated with the sample population's Reading Achievement score from the Stanford Achievement Test given to all students at the end of the school year, and with their individual responses to a series of questions concerning home literary environment.

For statistical purposes the following hypotheses were stated in null form to answer the indirect research questions.

1. There is no degree of linear relationship between reading attitude (MBRAM) and some linear combination of the following variables: READTO, BKSOWN, MAGA, BKSRD, NWSRD, RDACH, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between reading attitude and various factors in the home literary environment, reading achievement, and self-concept?

2. There is no degree of linear relationship between amount read to as a child (READTO) and some linear combination of the following variables: MBRAM, BKSOWN, MAGA, BKSRD, NWSRD, RDAHC, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between amount read to as a child and reading attitude, various factors in the home literary environment, reading achievement, and self-concept?

3. There is no degree of linear relationship between number of books owned (BKSOWN) and some linear combination of the following variables: MBRAM, READTO, MAGA, BKSRD, NWSRD, RDACH, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between number of books owned and reading attitude, various factors in the home literary environment, reading achievement, and self-concept?

4. There is no degree of linear relationship between number of magazines in the home on a monthly basis (MAGA) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, BKSRD, NWSRD, RDACH, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between number of magazines in the home on a monthly basis and reading attitude, various factors in the home literary environment, reading achievement, and self-concept?

5. There is no degree of linear relationship between number of nonschool required books read in the previous year (BKSRD) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, NWSRD, RDACH, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between number of nonschool required books read in the previous year and reading attitude, various factors in the home literary environment, reading achievement, and self-concept?

6. There is no degree of linear relationship between amount of newspaper read on a daily basis (NWSRD) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKS RD, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between amount of newspaper read on a daily basis and reading attitude, various factors of home literary environment, reading achievement, and self-concept?

7. There is no degree of linear relationship between reading achievement (RDACH) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKS RD, NWSRD, or SC. This should enable the researcher to answer the following question. What, if any, relationships exist between reading achievement and reading attitude, various factors of home literary environment, and self-concept?

8. There is no degree of linear relationship between self-concept (SC) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKS RD, NWSRD, or RDACH. This should enable the researcher to answer the following question. What, if any, relationships exist between self-concept and reading attitude, various factors of home literary environment, and reading achievement?

Each of these hypotheses will be investigated across different subsets of the data, specifically for females, males, Grade 6, Grade 7, Grade 8, and all possible combinations of sex and grade.

Need for the Study

Recent research indicates that a close relationship may exist among self-concept, reading achievement, and reading attitude. Research which specifies, identifies, and establishes the nature of these complex relationships, however, is lacking. Such definitive research is needed because it could establish alternatives.

Since the early 1950's much research has been conducted on the relationships between the self-concept of the child and academic achievement. Pietrofesa (1969) emphasized the idea that the child's self-concept not only influences who he is and what he does, but also influences his perceptions of the school and his academic achievement. Ellsworth (1967) further confirmed the idea by presenting evidence that the child with a negative self-concept has trouble in school. Fink (1962) also supported the idea that self-concept has a great influence on academic achievement. He stated that because academic underachievers often obtain average or better scores on tests of intelligence, it would appear that certainly a factor other than intelligence is at work. He contended that this other factor is self-concept. Both Pietrofesa and Fink cited the need for further research on the relationship between self-concept and achievement.

Other authors have also cited the importance of the student's self-concept to his academic achievement. Louthier

(1963), Quick (1973), and Merrill (1975) all emphasized the interrelatedness of self-concept and school achievement. Combs (1962) and Scott (1975) both believed that learning performance is limited by a low self-concept, but Musholt (1974) extended the idea further with his contention that student self-concept limits level of achievement in school more than does ability. Johnson (1968) emphasized the important interrelatedness of self-concept and the school when he stated that one of the purposes of education is to help students develop a positive self-concept. The question which then arises is one of how to accomplish this. Can achievement in reading tasks embellish self-concept? There are some indications that it perhaps can.

For example, one possible way to deal with the problem of low self-concept is through the use of bibliotherapy. Bibliotherapy refers to the use of books which deal with particular kinds of problems or people with which children can identify in learning about solutions and possible alternatives for their own particular problems or dilemmas. Since bibliotherapy is an aspect of reading, it is one way in which self-concept can be related to reading.

Schubert (1975) believed that anyone who can read can be helped by bibliotherapy. Sanacore (1975) found through his own research that bibliotherapy not only builds children's personal self-esteem but enhances their global self-concept,

or the way they perceive themselves in their total environment. Homze (1962) stated that as a child reads and identifies with a particular character he can begin to recognize and build on his own self-concept. Alpenfels (1949) emphasized that all children need to identify, and it is through this identification that young children learn to accept their culture. Both Bailey (1956) and Engel (1976) contended that reading can support and develop self-concept. Olsen (1975) stated that identification with characters in literature does help the reader to relive parts of his own experiences and achieve new understanding of them. He contended that bibliotherapy does indeed work.

Russell (1949, pp. 399-401) also believed that literature can be used to develop a positive self-concept through identification. He suggested seven hypotheses concerning identification through literature, of which four relate directly to building a positive self-concept. These four include:

Child identifies most easily with a character
resembling himself;

Identification may help in socialization of the
child;

Identification with a group may be valuable for
the child;

Identification may have mental health value for
the child.

Another way to attempt to deal with low self-concept is through providing opportunities for success in the classroom. This would appear to be a logical approach since psychologists in general agree that success is very important to the formulation of a positive self-concept. Studies by Roth (1959) and Kendall (1977) seem to substantiate this. However, what little research has been done in this area has not necessarily proven that academic success will improve self-concept. Studies by Emans and Urbas (1969), Fennimore (1970), and Perkins (1978) found no significant relationship between academic improvement and subsequent improvement in self-concept.

If one accepts the idea that self-concept is related to academic achievement and, consequently, reading achievement, then the next question which arises is whether or not a reading program which enhances self-concept through an effort at bibliotherapy and success-oriented learning experiences, and provides successful levels of reading achievement for all students is a balanced program. Many of the "back to basics" advocates would have educators and parents believe that the "basics" are all that is necessary. However, recently there has been a rising interest in the affective dimensions of reading. These appear to be important in their own right, as well as in how they affect the child's ability to achieve in reading. After all, is a reading

program which teaches children how to read without developing in them a desire to read a good reading program?

Duffy (1974) stated that the development of a positive attitude toward reading is a fundamental goal of reading instruction, but that it is a goal which is not being met. Bamberger (1977) reminded Americans that fewer and fewer people in this country are reading and profiting from reading. Barmore and Morse (1977) cited surveys which indicate that Americans read fewer books than citizens of many other countries. Even more startling is the Gallup Poll of 1969 which reported that 58% of the American population had never read a book.

American schools today are not developing lifelong readers. Barmore and Morse (1977) noted that few students come to school with negative attitudes toward reading, but by middle school years a large number do not like to read. A variety of reasons for this have been offered. Alm (1962) said that students, especially at the secondary level, come to view reading as a chore rather than a pleasure because of the amount of required reading expected of them in each subject. This view of reading tends to develop a negative reading attitude rather than a positive one. Leeds (1974) suggested that reading attitude is adversely affected by reading interests when those interests and concomitant needs are not met.

Many educators would agree that attitude does have an effect on achievement. Howes (1963), Dechant (1970), Koe (1975), and Fader et al. (1976) all cited the strong effect which attitude toward reading has on reading achievement. In Rider and Martinez's study (1969) of reading problems, the reading specialists and administrators whom they surveyed ranked a negative attitude about reading as the primary problem associated with lack of reading achievement at all levels of school. Hunt (1965) saw the reverse of this also. He found that strong interest, an element of attitude, not only enhances reading achievement but can cause the reader to transcend his actual reading skill level.

Not all researchers in reading, however, agree about the degree to which reading attitude affects educational and/or reading achievement. Roby et al. (1974) and Johnson and Jacobson (1968) found in their studies that the relationship between pupil attitude and educational achievement results was not significant. LaBelle (1964) found that high achievers do not necessarily have a more positive attitude than do middle and low achievers. Lamme (1976) noted that critical readers, generally considered to be high reading achievers, are not always avid readers. Dulin and Mikulecky (1977) in reviewing recent research on reading achievement and its effect on attitude concluded that improving reading ability is not necessarily a sure way to improve reading attitude.

A number of studies involving attitude and its importance to reading have been conducted at The University of Tennessee, Knoxville. Fowler (1972) looked at reading attitudes of sixth grade students and developed a "Like to Read" program designed to improve reading skills and reading attitudes. Heathington (1975) noted the need for a reading attitude scale for children in the middle grades. She developed and normed such a scale in 1975 for fourth, fifth, and sixth graders. Dotson (1977) later used the Heathington scale in her study of 332 fifth grade children. She found a significant correlation between success or failure in reading and attitude toward reading, between grade retention (academic failure) and attitude toward reading, between intellectual ability and attitude toward reading, between sex and attitude toward reading (girls holding a more positive attitude than boys), and between socioeconomic level and attitude toward reading.

Self-concept, reading achievement, and reading attitude appear to be closely interrelated. It would seem that as a low self-concept leads to reading underachievement, the reading underachievement leads to low self-concept. It would further appear that as a negative reading attitude contributes to low reading achievement, the low reading achievement contributes to the negative reading attitude. These may be self-perpetuating problems.

Limitations

This study has several limitations which should be considered in any interpretive use of the data. The validity of the research instruments is itself a serious concern of the researcher and a limitation. Self-concept is a complex, many faceted element of personality that is difficult to adequately assess. Attitude, as it relates to behavior, is also very difficult to measure, for it is not only extremely complex but is also constantly changing. Although reading achievement is somewhat easier to measure, it too presents many problems as it involves a number of specific skills, each acting both concomitantly and singularly, to affect the total reading score. Since established instruments were used in the study, the validity of the instruments is simply accepted for the research purposes.

Another limitation of this study is that the attitude scale was used with sixth grade students but had only been normed for seventh grade and above. However, the measure was read aloud to all students as they followed along on their copies so as to eliminate any problems arising from inability to read the statements.

One problem encountered in attempting to measure affective attributes such as self-concept and reading attitude was the desire of many students to respond to such questions in a manner which they felt would please the

teacher or test administrator rather than in a totally honest expression of their true feelings. In order to prevent this from occurring, the students in this study were repeatedly assured that their teachers would not see their answers or in any way be informed of their individual results. However, there was no foreseeable way of establishing student acceptance of the research instruments. Also, the validity of the student responses to the questions on specific aspects of home literary environment is questionable. The students were required to make estimates and judgements which perhaps, for some, were beyond their capabilities or desires.

Although the study did include subjects with diverse achievement and attitudinal levels, it is confined to the 163 subjects studied. These subjects do not represent a random sample, as only subjects acquiring parental permission to participate in the study were actually used in the study. Also, the students were given the opportunity to refuse to participate.

The generalization of the findings of this study is also limited by the fact that all subjects studied were drawn from one school population in a small town in East Tennessee. However, approximately 25% of the total school population did participate in the study, and this is the only school which houses grades six, seven, or eight within the city school district. To the degree that the population

from a Tennessee rural area varies from other populations, the results of this study are not generalizable.

Assumptions

The following assumptions were made by the researcher:

1. That the tests used to measure reading achievement, reading attitude, and self-concept did measure what they were intended to measure.
2. That self-concept and reading attitude are well established in an individual by the time he reaches the sixth grade.
3. That testing procedures were uniform and consistent with standardized ones.
4. That students from whom data was obtained are typical of all students in Greeneville Middle School.

Definitions of Terms

Attitude. For the purposes of this study attitude will be defined as

The predisposition or tendency to react specifically towards an object, situation, or value; usually accompanied by feelings and emotions; attitudes cannot be directly observed but must be inferred from overt behavior, both verbal and nonverbal.
(Good, 1973, p. 49)

Bibliotherapy. The use of problem-oriented or culture-oriented literature to enhance the self-concept or facilitate the problem-solving of individuals through identification.

Home Literary Environment. For the purposes of this study home literary environment refers to those aspects of the home environment which involve the presence and/or use of books, magazines, and newspapers.

Nonschool Required Books. For the purposes of this study nonschool required books refers to any books other than texts and teacher-assigned materials.

Reading Achievement. For the purposes of this study reading achievement will be defined as that level of overall reading ability as exhibited on the Reading Achievement section of the Stanford Achievement Tests and expressed in a grade-level score.

Reading Attitude. For the purposes of this study reading attitude will be defined as the overall emotional set which an individual has regarding the reading activity. It involves such factors as interest, taste, appreciation, effects of literature on the individual, and the nature of the individual's response to literature.

Reading Attitude Score. For the purposes of this study reading attitude score refers to that score between 0 and 5 achieved on the Mikulecky Behavioral Reading Attitude Measure (MBRAM), with 5 representing the most positive attitude toward reading and 0 the most negative attitude.

Self-Concept. For the purposes of this study self-concept will be defined as

. . . an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perceptions and concepts of the self in relation to others and to the environment; the value qualities which are perceived as having positive or negative valence. It is, then, the organized picture, existing in awareness either as figure or ground, of the self and the self-in-relationship, together with the positive and negative values which are associated with those qualities and relationships, as they are perceived as existing in the past, present, or future. (Rogers, 1951, p. 501)

Self-Concept Score. For the purposes of this study self-concept score refers to that score yielded by the Total Positive category on the Tennessee Self Concept Scale (TSCS) and identified by the author as reflecting the overall level of self-concept, with the higher scores reflecting a more positive self-concept than the lower scores.

Specific Aspects of Home Literary Environment. For the purposes of this study specific aspects of home literary environment refers to the following: amount read to as a child, number of books owned, number of magazines in the home on a monthly basis, number of nonschool required books read the previous year, and amount of the newspaper read on a daily basis.

Organization of the Study

This study is organized into five chapters.

Chapter I contains the introduction, statement of the problem, purpose of the study, need for the study, limitations, assumptions, definitions, and organization of the study.

Chapter II contains a survey of the literature relevant to self-concept, measurement of self-concept, self-concept and the social environment of the school, self-concept and academic achievement, self-concept as it relates to reading, reading as it influences self-concept; attitude, measurement of attitude, attitude's effect on reading, reading's effect on attitude; home literary environment; and the measuring instruments used in the study, the Stanford Achievement Test; Reading, the Tennessee Self Concept Scale, and the Mikulecky Behavioral Reading Attitude Measure.

Chapter III describes the procedures followed in carrying out the research project.

Chapter IV contains the presentation and analysis of the data.

Chapter V includes a summary, findings, analysis of findings, conclusions, and recommendations.

CHAPTER II

LITERATURE REVIEW

A survey of the literature related to this study was conducted. It revealed a number of studies, both contradictory and complementary. The studies reviewed linked self-concept to academic and/or reading achievement, reading to self-concept, attitude's effect on reading, reading's effect on attitude, and the home environment's effect on attitude, achievement, and self-concept. The search for related literature included two ERIC-CIJE searches, one in the summer of 1977 and one in the winter of 1978, a computer search of Dissertations International Abstracts and Psychological Abstracts, and extensive searches by the investigator in Education Index for the years 1940-1978. Identifiers used in the searches were self-concept, reading attitude, reading achievement, home environment, self-esteem, and home literary environment. From the 334 studies yielded by these searches, 262 were selected as relevant to this study and used for this study. Although a large number of studies were found and reviewed, no one study was located which correlated all four elements included in this study, and few studies were found which dealt with any of the four elements at the middle school level of sixth, seventh, and eighth grades.

A review of the literature is presented under the following headings: Self Concept: Measurement of Self-Concept, Self-Concept and the Social Environment of the School, Self-Concept and Academic Achievement, Self-Concept As It Relates to Reading, Reading As It Influences Self-Concept; Attitude: Measurement of Attitude, Attitude's Effect on Reading, Reading's Effect on Attitude, Relationship of Reading Attitude to Self-Concept; Home Literary Environment; and the Measuring Instruments: Stanford Achievement Test; Reading, Tennessee Self Concept Scale, Mikulecky Behavioral Reading Attitude Measure.

I. SELF-CONCEPT

Self-concept is a much disputed hypothetical construct. Although there are specific elements of disagreement among writers and theoreticians, most do agree upon some of the basic components. Arthur Jersild (1975) said that self-concept is made up of three interrelated components—perceptual, conceptual, and attitudinal. The perceptual component refers to the child's awareness of his body or physical self and is the first of the components to develop. The conceptual component emerges as the child's cognitive capabilities develop, and begins to crystalize with the introspection which begins about age eleven and develops in adolescence. The attitudinal component refers to the child's evaluation

of his own worth as a person, or his self-esteem. All of these components work both independently and together to make up that factor of personality called self-concept. Pietrofesa (1969, p. 37) further defined self-concept in terms appropriate to the interest of the school when he described it in the following manner.

Self-concept, a composite of numerous self-percepts, is a hypothetical construct, encompassing all of the values, attitudes, and beliefs toward one's self in relation to the environment. The self-concept influences and to a great degree determines perception and behavior.

If one is to accept these definitions of self-concept, then he must also accept a number of conclusions which would logically follow. If self-concept is developed through the interaction of an individual with his environment, then both the home and the school (which is a large percentage of the child's environment from ages six to eighteen) must influence the self-concept. If the self-concept influences the child's perception of his environment, i.e. the school, then the self-concept probably influences his academic achievement (behavior) within that school. Then, as many leading psychologists and educators, including Rogers (1951), Lecky (1954), and Jersild (1975), have predicted, the child who sees himself as worthwhile and good will attempt to behave accordingly, while the child who sees himself as worthless and bad will probably behave in that manner. Also, if as Jersild (1975) has said, the conceptual component of

the self-concept does not begin to crystalize until age eleven, then the sixth grade is perhaps the first school year in which measurement of self-concept is valid. Based on this, the definition of self-concept used in this study is that composite of perceptual, conceptual, and attitudinal components toward self which every individual possesses and which influences his perceptions of his environment and his behavior.

Measurement of Self-Concept

The task of measuring self-concept is a very difficult one because self-concept is such a nebulous construct. However, many diverse instruments have been devised that attempt to measure the various aspects of the self-concept (Wylie, 1975). Most of these can be divided into three basic groups, those employing either the self-report, the projective, or the observational technique.

A number of investigators have reviewed the different instruments and problems in self-concept research, including Strong and Fader (1961), Crown and Stephens (1961), Zirkle (1972), McNelly (1972), and Wylie (1974). These reviewers either imply or conclude that the validity of self-concept measurement is still very much uncertain, for self-concept is so complex that many researchers using different techniques have obtained unrelated scores (Samuels, 1977, p. 78).

The self-report technique is the self-concept measurement most easily constructed and scored and is the type used in this study. The self-report technique has, however, been criticized on a number of points. Samuels (1977, pp. 78-79) cited a number of investigators, including Brunswick (1939), Edwards (1957), Taylor (1961), and Ozehosky and Clark (1971), who have criticized the self-report technique because denial, social desirability, and other unconscious factors can distort responses to questions. She also noted that such researchers as Hilgard (1949), Combs and Soper (1957), and Purkey and Cage (1973) report that since self-report instruments focus on the individual's verbalizations of self-feelings, they often ignore those aspects of self-concept that the individual is either unable or unwilling to reveal about himself.

Still other researchers, however, support the self-report technique, arguing that it is as valid a technique as any other. Indeed, studies by Coopersmith (1959) and Ozehosky and Clark (1970) did find a high correlation between the observation technique and the self-report technique in studies of elementary school children. It would also appear to be true that the older the subject is, the more likely the self-report technique will measure self-concept.

Self-Concept and the Social Environment of the School

Self-concept appears to be related to the school in two ways. First, since self-concept is a learned perception directly related to the environment, or perceived environment, of the child, the school (as well as the home) is responsible for its development (Overstreet, 1952). Secondly, because the child's concept of self is directly related to his behavior, the behavior of the child in the school setting (i.e., achievement or lack of achievement) is undoubtedly tied to his self-concept.

Purkey (1970) identified the school as the second greatest influence on the self-concept of the child. He noted that no one is born with a self-concept, and that research on the development of self-concept indicates that self-evaluations are basically the products of how an individual thinks the significant others in his life perceive him and relate to him. He emphasized the idea that next to the home, the schools and the teachers (significant others within the school environment) exert the single greatest influence on how students perceive themselves and their abilities.

Schulman, Ford, and Busk (1973) also noted the critical role which the school plays in the development of the self-concept. The school is the one institution which reaches all children and which can be controlled.

The school has the children during the years of development of the self-concept which are most conducive to intervention. Since most children view their teachers as significant others who influence their self-concept, then teachers are the best agents for promoting positive self-concept. Mattocks and Jew (1974) agreed that the role of the school, and particularly the teacher, is major in the development of the healthy self-concept in children. Patterson (1973, p. 125) also cited the importance of the teacher in the development of the child's self-concept, and noted that "The concepts which the teacher has of the children become the concepts which the children come to have of themselves."

The school and the teacher, however, may not be affecting the development of the child's self-concept in a positive way. This fact is borne out in Morse's (1964) study of the self-concept of children in alternate grades three to eleven. He reported that generally children have a higher level of self-esteem when they enter school, but that this begins to drop with the commencement of the third grade. He further reported that school self-esteem grows less positive with each successive grade in school.

Self-Concept and Academic Achievement

For many years researchers have attempted to examine the effect of self-concept on academic achievement. David

Harris (1960) reported that as early as 1940 over three hundred studies had been reported concerning the influence of personality factors, including self-concept, on academic achievement. Most of these and later studies, such as those by Coopersmith (1959) and Lecky (1954), noted the importance of self-concept to academic achievement. Walsh (1956) not only noted the importance of the relationship between self-concept and academic achievement, but concluded from his study that self-concept is the basic causal factor in determining achievement level in school when intellectual ability is controlled.

Combs and Snygg (1958), in their writings on the relationship of behavior to self, appeared to agree with Walsh's findings. They insisted that all behavior is related to the perception of self. They contended that not only is the learning of young people determined and influenced by self-concept, but that in some cases it is actually distorted by it. Landsman (1962) explained this somewhat differently when he discussed learning and its relationship to self-concept. He said that learning is internalized more rapidly when it is perceived by the learner as being related to positive aspects of his self, but that learning tasks related to negative aspects of self are avoided. He agreed with Jersild et al. (1975) that the learner proceeds, interprets, accepts, and resists or rejects what he meets in the school in light of his self-concept.

If the learner then proceeds or resists what he meets in school in accordance with his self-concept, self-concept probably is related to motivation. Coopersmith and Feldman (1973) cited the feelings and emotions of a child as being relevant to motivation in the classroom. They, along with Ellsworth (1967) predicted that the child with a negative self-concept will have trouble in school and will not be motivated to succeed. They recommended a positive self-concept as being conducive to school achievement. Dial (1976) further substantiated the importance of the positive self-concept when he noted that the greatest obstacle to teaching the educationally disadvantaged student is the poor self-concept of that student. Ellsworth (1967, p. 55) helped to clarify the difference between a positive and a negative self-concept when he defined a positive self-concept as ". . . feeling adequate, capable of dealing with the world, likeable, valued, intrinsically worthy, and free."

Scott (1975) and Brookover and Shailer (1964) also cited the importance of the self-concept to school achievement, but they specified that the particularly relevant aspect of self-concept is the academic self-concept. (Academic self-concept refers to the individual's concept of his own ability to learn in the school.) Scott emphasized the importance of academic self-concept as an inhibitor of school achievement. He agreed with Lecky (1954) that the child who comes

to school with the preconceived notion that he is a "dumbbell" or a "brain" will resist any attempts to change his self-perception and will tend to deny any facts which contradict it.

A number of general studies over the years have supported the notion that self-concept is related to academic achievement. Reeder (1955), Brookover, Patterson, and Thomas (1962), and Kubiniec (1970) each reported a positive correlation between self-concept and academic achievement. Laryea's (1972) study in 1972 confirmed this. Black (1974) found self-concept test performance among learning disabled children to be significantly and negatively related to age, school grade, and each measure of achievement. He found that the underachiever has a lower self-concept than the normal achiever, and that the older he gets, the more negative the self-concept becomes.

Although few studies involving the relationship between self-concept and academic achievement in primary children have been conducted (perhaps because of the uncertainty of measuring self-concept at such an early age), a number of studies have been conducted with children in the middle grades of four through eight which support the high relevancy of self-concept to academic achievement. Lumpkin (1959), Dyson (1967), Bledsoe (1967), Hughes (1968), and Harris (1960) all reported studies supporting this relevancy,

while Piers and Harris (1964) not only found self-concept related to achievement but found the relationship greater in the sixth grade than in the third.

In his study of intermediate children attending de facto segregated schools and desegregated schools, Caplin (1969) found a significant positive relationship between self-concept and academic achievement. He also found that children attending de facto segregated schools have less positive self-concepts than those attending desegregated schools.

August, Rychlak, and Felker (1975) looked at learning along the affective dimensions and its influence by personality-related variables. They found that among 134 fifth grade children, those with high self-concepts learned more effectively those nouns that they "liked," while low self-concept girls and middle and low self-concept boys learned those nouns which they "disliked" more effectively. They concluded that this study gave "empirical support to the applicability of an affective learning style in children, which is dependent, in part, upon the child's self-concept." (p. 805)

At least two other studies involving middle grade students also supported the relationship between self-concept and academic achievement. Stenner and Katzenmyer (1976) studied 225 sixth grade students in rural West Virginia. Using a great number of different tests and scales they

found self-concept correlated with both intelligence and academic achievement. Campbell (1965) studied fourth, fifth, and sixth graders, using results from the Coopersmith Self-Esteem test and the Iowa Test of Basic Skills. She found a positive relationship ($r = .308$) between self-concept and academic achievement, with the relationship decreasing at each progressively higher grade. She also found, as did Bledsoe (1967) in his study of 271 fourth and sixth graders, that the relationship was higher for boys than for girls at every grade level.

Many studies of self-concept and academic achievement have also been conducted at the high school level. Fink (1962) found adequate self-concept positively related to academic achievement in ninth grade students, with the correlation for boys even more positive than that for girls. Jones and Strowig (1968) also concluded that self-concept is positively related to scholastic achievement in high school seniors. Brookover et al. (1976), who studied a group of students over a six year period from the seventh grade to the twelfth grade, also determined that self-concept, especially self-concept of ability, limits academic achievement.

In addition to the above studies, a number of studies relating self-concept to academic achievement at the college level can also be cited. Stevens (1956) found self-concept

related to academic achievement, particularly the three dimensions of self-concept of self-insight, self-acceptance, and salience of personality traits. Kerns (1957), in his study of first semester college freshmen, found self-concept related to academic success also. In addition, Jones and Grieneeks (1970) studied 877 college sophomores and determined that self-perception is positively related to school, though not an equally effective predictor of achievement. Finally, Spencer (1976) attempted to view a more global picture of self-concept related to academic achievement in his study of students in Bolivia. He found that socioeconomic level is related to self-concept which is related to academic achievement.

Not all studies of self-concept as it relates to academic achievement, however, have found a significant relationship. Cook (1959), Mitchell (1959), Borislow (1962), Butcher (1967), and Wass (1968) each found no significant relationship between self-concept and academic achievement. Iglinsky and Wiant (1971), who studied the relationship of personality to academic success in college students, found that self-concept (as measured by the Tennessee Self Concept Scale) is not related to academic success. In the middle grades Chang (1976) found that for 198 fourth, fifth, and sixth graders, overall self-concept was not significantly related to academic success. Finally, Fullerton (1973), in her

attempt to determine the effect improvement of self-concept of junior high students would have on their academic achievement and behavior, found that her experimental group of eighth and ninth graders improved in self-concept but during the study made no improvement in behavior or academics.

Self-Concept As It Relates to Reading

A number of studies have also been conducted which examine the relationship between the child's self-concept and the more specific area of academic achievement—reading achievement. As early as 1957 Spache was reporting on the prevalence of poor personality patterns found in poor readers. Merrill (1975) saw self-concept as a determining factor in reading disability, while Berry and Zwier (1973) inferred from their study of factors which distinguish superior and average students that independence and self-assurance (aspects of self-concept) are positively related to reading ability.

Some researchers have attempted to pinpoint the specific aspects of self-concept which are most closely related to achievement in reading. Gillham (1967), in her discussion of self-concept and its relationship to reading, noted the important interrelatedness and pointed out that it is the child's self-concept as a student that is most closely related to reading achievement. However, Calloway, Jerrolds,

and Tisdale (1972) reported in their study of children in the first through twelfth grades in Georgia that, in general, those elements of self-concept concerning social adjustment were more closely related to reading achievement for disabled readers than those elements concerning personal adjustment. This is, perhaps, in conflict with Woolf (1965) who noted that ego strength was most positively related to reading ability. Spears and Deese (1973) agreed that self-concept, with all its many aspects, is directly related to reading achievement, but they cautioned that self-concept can only be expected to predict success in school (or reading) when the particular activity involved is important to self-maintenance. In other words, if reading success is important in the child's mind to maintain the feeling of competency, then the child with a positive self-concept will succeed in reading.

One way to approach a study of the research on the relationship between self-concept and reading achievement is to examine it by grade level. This is particularly important in light of the fact that the higher the grade level, the higher the relevancy seems to be.

The relationship of self-concept to reading achievement in the lower grades is still in doubt. Lamy (1963), in her much publicized study of the relationship of self-concept to reading achievement in the first grade, found a significantly high correlation. However, Williams (1973) a decade

later did not find self-concept to correlate significantly with first or second grade reading achievement. Butcher (1967) also found no significant relationship. In explanation, Bloomer (1967) suggested that perhaps young children are simply not affected by self-concept the way older children are. He felt that the nature of beginning reading might be such that self-concept does not affect it as much. Nevertheless, some studies, including one by Cummings (1971) of third graders, did find a significant relationship between reading achievement and self-concept in the lower grades.

In the middle or intermediate grades, however, educators have long recognized the importance of the child's self-concept to reading achievement. Athey (1967), Cohn and Kornelly (1970), and Hovious (1974) all emphasized the importance of the positive self-concept to reading ability in the middle grades. Studies by Chronister (1964), Bazemore and Gwaltney (1973), and Dixon (1975) further substantiated this idea. Lumpkin (1959), in his study of twenty-four overachievers and twenty-four underachievers in the fifth grade, found that when matched in chronological age, mental age, sex, and home background, overachievers possessed positive self-concepts and underachievers showed negative perceptions of self, both in their own eyes and in the eyes of their family and peers. Toller (1968) also noted that the self-concept of retarded readers was below

that of achieving readers, even when intelligence was held constant.

In his study of fourth, sixth, and eighth graders, Hallock (1958) found family relations and self-reliance to be the aspects of self-concept most highly correlated with reading success. Bodwin (1959) cited the positive and significant relationship between immature self-concept and reading disability. In agreement with Bodwin's findings, Bauer (1956) noted that poor readers at the junior high level are not able to conform as well to school rules and were not accepted by their peers as well as good readers. This seems to support Cutts' (1956) findings that, in general, superior readers are more popular at school than poor readers. However, Cutts also found that superior readers are no better adjusted personally or socially than other readers.

In contrast to these studies, however, Childress' (1977) study of 154 sixth grade students in a Title I Reading Program in urban Georgia found that achieving and nonachieving students did not differ significantly in self-concept. This conclusion was based upon data gathered from the Slosson Oral Reading Test, the Piers-Harris Self-Concept Scale, and a personal data sheet developed by the researcher.

Studies of self-concept and its relationship to reading have been conducted at other levels also. Lund and Ivanoff (1972) studied 227 incoming college freshmen. Using results

from the CEEB, the Nelson-Denny Reading Test, and the Adjective Check List (ACL), they concluded that there is a significant relationship between self-concept and reading achievement, and that an evaluation of self-concept is essential for a successful remedial reading program, even at the college level. Jaranko (1969) also studied college students. His subjects were taken from students attending the Reading Center of George Peabody College, and he found three causes of reading failure in his subjects—visual discrimination, auditory discrimination, and negative self-concept.

Many writers and researchers, therefore, have pointed out the close relationship between a poor self-concept and reading disability. Few, however, have given the classroom teacher any practical suggestions for application in the classroom. Sebeson (1970) is an exception. She not only noted the importance of self-concept to reading achievement, but pointed out a number of behavioral symptoms which the teacher might find are indicators of a student with a poor self-concept, and thus possibly related to reading disability. She listed such things as feelings of insecurity, inattention, loneliness, indecision, and emotional immaturity.

One aspect of the relationship between self-concept and reading and/or general academic achievement which is widely acclaimed but has very little empirical support is the

theory that an improvement in self-concept will lead to improvement in achievement. Pryor (1975) contended that changing a poor reader's self-concept is the initial step toward academic improvement. Witty (1950) cited the importance of self-concept to success or failure in reading and listed a number of steps for preventing reading failure by preventing or correcting emotional problems leading to negative self-concept. Ludwig and Maehr (1967) studied sixty-five male junior high students and found that changes in self-concept did produce changes in behavior; however, they were not looking at academic achievement as an aspect of that behavior. These, and many other researchers, have cited the importance of improvement in self-concept to the improvement of achievement, but no study could be found which supported the contention that improving self-concept did, indeed, improve achievement. One study available which did attempt to prove this was one by Van Koughnett and Smith (1969). They reported on a Title III pilot program designed to enhance the self-concept of minority children. Their results indicated that although self-concept in the upper grade children did improve as a result of the program, achievement did not.

One problem which has arisen out of the study of the relationship between self-concept and reading achievement is one of cause and effect. The controversy centers

around the question of whether or not poor self-concept causes reading disability, or the reading disability contributes to the poor self-concept. Callaway, Jerrolds, and Tisdale (1972) cautioned that correlational studies do not prove a cause-effect relationship; however, numerous researchers, including Berretta (1970), have taken such correlational studies as those by Lamy (1963) and Wattenburg and Clifford (1964) and concluded that a cause-effect relationship does exist between self-concept and reading achievement. Since both studies involved kindergarten through second grade children, it has been speculated that the self-concept in the early years is predictive of reading achievement years later. Indeed, Gann (1945) based her entire dissertation on the assumption that failure in reading achievement is primarily caused by detrimental patterns of behaviors, attitudes, resistance, lack of interest, and motivation. Quandt (1972), however, saw the cause-effect relationship in another light. He said:

It is possible, then, that low self-concepts which lead to reading disabilities are caused either by the child's evaluation of his failure to learn reading during his initial attempts or by the reactions of parents, peers, and teachers prior to or during his attempts to learn reading. Most likely both factors play a role in this grim situation. (p. 8)

Reading As It Influences Self-Concept

It would appear from the multitude of research and writing available on the subject that self-concept does influence reading achievement. Is, however, the reverse of this true? Does reading achievement and/or reading materials influence the self-concept? The literature available would appear to support that they do.

Most authorities in the field agree that the success or failure which a child meets in reading has a definite impact on his self-concept. Smith and Dechant (1961, pp. 297-394) said that because reading is an essential, developmental task in our culture, failure in reading can prevent the child from satisfying his need for self-esteem. As early as 1943 Fernald noted that difficulties in reading had an adverse effect on personality. Woolner (1971) further supported this idea with her emphasis on the need for the child to experience success in order to improve his self-concept.

One question which must be raised is that of the effect of improved reading achievement on self-concept. Perkins (1978) found that there was not a significant relationship between changes in achievement and subsequent changes in self-concept for fourth and sixth graders. Wurster (1974) also found in his study of 142 second through fourth grade disadvantaged children in a remedial reading program that

although they improved in reading achievement, they did not improve in self-concept.

Other researchers, however, found the opposite to be true. Fennimore (1970) found that a change in reading achievement for college students did affect their self-concepts. Also at the college level, Roth (1959) found a significant difference in self-perception of students who improved, did not improve, and those who dropped out of the reading program altogether. In addition, Larson (1975) found that a tutoring program for third grade children designed to improve reading achievement not only improved reading achievement but also self-concept. Cohn and Kornelly's (1970) study of seventh graders and Seay's (1961) study of reading disabled boys also indicated that an improvement in reading achievement was accompanied by an increase in positive self-concept.

The effects on self-concept of various methods of grouping for special improvement in reading achievement have also been studied. Kendall (1977) studied educationally mentally retarded boys placed in three groups—full time in a special class, full time in a regular class, and part time in a special class while part time in a regular class. He found that the self-concept and reading achievement was lower for the boys placed full time in a special class and those part time in a special class while part time in a regular

class, than for those boys who spent their full time in a regular classroom. Schluch (1977) conducted a similar study with high school seniors in a developmental reading course. She found that the students' perception of group membership (high, low, or middle ability group) affected their performance on a test of reading achievement. Students who believed they were in the high group performed better on the reading test, and students who believed they were in the low group performed worse.

Kibby's (1977) study of homogenously grouped second graders also reflected the importance of grouping on children's self-concept. He studied the six poorest readers in the high achieving class and the five best readers in the lowest achieving class. He found that the high achievers had a slightly more negative self-concept than the low achievers, even though they were in reality much better readers.

Another way in which reading or reading materials have been assumed to affect self-concept is through bibliotherapy. Schubert (1975), after studying bibliotherapy and its effect on students, concluded that anyone who can read can be helped by bibliotherapy. Bailey (1956) supported this idea in an article which she wrote in 1956 when she emphasized the importance of the use of reading materials in helping a child overcome insecurities. Sanacore (1975), in discussing the

assessment and enhancement of self-concept, said that bibliotherapy can build self-esteem, give students vicarious experiences, and enhance global self-concept.

Johnson (1968) and Wagener (1976) both noted the particularly effective impact bibliotherapy can have on the self-concept of minority children. Wagener found in her study of fourth grade Negro children that the use of culturally or racially oriented reading materials did enhance self-concept. Stephens (1975), however, did not find that bibliotherapy was particularly effective in promoting self-reliance in sixth grade students.

One reason that bibliotherapy seems to work is that it gives the child an opportunity to identify with a character like him. Rogers (1951) listed the identification with others as being important to the development of an adequate self-concept. Fennimore (1970) said that teachers can provide the experiences which will help the adolescent develop this and other traits important to self-concept through the use of literature. Homze (1962), in her review of the research in the relationship of reading to self-concept, and Engel (1976), in her discussion of the importance of literature to self-concept development, both noted the effectiveness of using bibliotherapy to support self-concept.

Heaps (1940) also supports the theory that books can contribute to character growth, personal development, and

adjustment. His work is particularly relevant to this study because he deals primarily with the adolescent. He listed five important areas of adolescent needs which might yield to bibliotherapeutic treatment: a satisfying philosophy of life, development of personality, standards of conduct which will be socially acceptable, standards of behavior and manners which make the individual socially presentable, and knowledge about sex and physical development (p. 790).

II. ATTITUDE

Attitude has to do with the way one feels about and responds to a particular thing. Shaw and Wright (1976) discussed the problem of formulating a definition for attitude in their book Scales for the Measurement of Attitudes. In their review of definitions of attitude offered by various writers and researchers, they formulated six statements concerning attitude and, to a certain extent, defining it.

1. Attitudes are based upon evaluative concepts regarding characteristics of the referent object and give rise to motivated behavior.
2. Attitudes are construed as varying in quality and intensity (or strength) on a continuum from positive through neutral to negative.
3. Attitudes are learned, rather than being innate, or the result of constitutional development and maturation.
4. Attitudes have specific social referents, or specific classes thereof.

5. Attitudes possess varying degrees of interrelatedness to one another.
6. Attitudes are relatively stable and enduring.
(pp. 6-10)

Reading attitude then refers to the way a child feels about reading and the way he responds to the reading act.

Estes (1971) warned that

How students feel about reading is as important as whether they are able to read, for, as is true for most abilities, the value of reading ability lies in its use rather than its possession. (p. 135)

Therefore, the use of one's reading skills, the amount and type of reading one does, is, to a large degree, dependent upon one's attitude. Children seldom attempt what they are not interested in doing, and interest in reading is an aspect of reading attitude. The more a child reads the more likely he is to become a fluent reader. The better the child's attitude toward reading, the more likely he is to read (Deck and Barnette, 1976). If, then, reading attitude is so important, the next questions which must be asked are why is it important and how can it be measured?

Kennedy and Halenski (1975) reported that attitude is important because it precedes the development of interests. Without interests, the individual will not read. They developed a reading attitude measure for secondary students because they believed the assessment of attitude is necessary in order to examine the total school reading program and to provide insights into student attitudes toward reading that

may affect the development of lifetime reading interests and habits. Carlsen (1963), Alm (1962), and Epstein (1977) each cited the particular importance of developing positive attitudes toward reading, particularly in the adolescent.

● There is some debate, however, as to just what constitutes reading attitude. Ransbury (1973), in seeking to define the make-up of reading attitude, studied sixty fifth and sixth graders, their parents, and their teachers. She found that the children saw attitude as verbal statements about the merits of reading as well as the number of reading materials owned. Parents felt attitude referred to the frequency of reading and diversity of types of reading matter. Teachers, however, generally associated attitude with intelligence. The children attributed their own reading attitudes primarily to their reading ability. All three groups saw the influence of parents as greatly affecting attitudes, but the influence of teachers was perceived as inconsequential. This points out the fact that at least in this study, the home environment (parents) was perceived as being more influential than the school environment (teachers) on reading attitude.

Measurement of Attitudes

Attitude itself is difficult to measure. Shaw and Wright (1967) presented a very thorough review of attitude measurement and measuring techniques. They reaffirmed the

idea that attitude can be measured and cited the various methods and scales which can be used.

Epstein (1977), too, believed that attitude can be determined. He stated that young adults will express positive attitudes about reading by their actions—purchasing and reading books, newspapers, and magazines. Lampert and Saunders (1976) studied attitude in 340 high school students in an affluent Boston suburb. They asked students to label themselves as "reader" or "nonreader" and used these labels as a reflection of attitude toward reading. Their results indicated little correlation between reading attitude and reading proficiency, suggesting that the labels of "reader" and "nonreader" reflected the students' perceptions of themselves rather than measurable skill differences.

Rowell (1972) contended that the best measure of reading attitude is the observing and recording of behaviors of the child in various reading situations. This is, undoubtedly, one way to measure attitude, but it is an extremely time-consuming method for the classroom teacher. In their review of instruments used to assess reading attitudes in the elementary grades, Greene and Zirkel (1976) categorized the various instruments into five types: projective technique, ethnic-specific instruments, observer-report measures, verbal self-report instruments, and pictorial measures. They concluded their report with the recommendation

of a multimeasure approach based on both a verbal-report instrument and an observer-report instrument.

In their review of useful reading attitude measures, Alexander and Filler (1976) cited only eight reading attitude instruments which can be considered valid or reliable to any degree, and of these, six are of use only with elementary age children. Of the two which are usable with sixth, seventh, and eighth grade students, the Boning and Boning "Incomplete Sentence Test" and Estes' "Reading Attitude Scale," the Estes scale is the one most extensively tested for validation and reliability. Neither of these scales, however, provide a view of reading attitude in a stage-like taxonomy, as does the one developed in 1977 by Mikulecky.

For a long time educators viewed reading attitude as something either positive or negative by degrees. Krathwohl et al. (1964), however, developed a taxonomy of the affective domain. His taxonomy offered a more sophisticated stage-like model of attitude. Krathwohl maintained that people's attitudes develop through definite stages: awareness of reading, response to reading, satisfaction in reading, valuing of reading, and organization of priorities rating reading highly. Mikulecky (1977) then developed and normed a measure for secondary students' attitude which charts behaviors along Krathwohl's taxonomy and provides empirical indications of the validity of it. It was Mikulecky's

measure of reading attitudes which was chosen for use in this study.

Attitude's Effect on Reading

Many educators agree that reading attitude does affect reading achievement. Frazier and Combs (1958), in their review of research related to self-concept and attitude, stated that most failures in reading and spelling are not due to the inability of the student to perform, but rather to his attitude toward the tasks of reading and spelling. Howes (1963) stated that "A child's attitude toward reading is a vital influence upon his reading success both now and in the future" (p. 495). Koe (1979) noted that attitude toward reading is as important as skills to reading achievement. In his study Hunt (1965) found that strong interest (a part of reading attitude) can enable readers to transcend their actual skill level.

Dechant (1970) noted in her book that the reading attitude of the pupil was often at the root of reading difficulty. She said that the solution to the problems of the reluctant reader must begin with attitude. Fader et al. (1976) agreed when he stated that student attitudes must be improved before one may expect to see any lasting effects upon reading achievement (pp. 78-80). Some researchers, such as Gardner (1972) and Neilson (1977), have also found that

sex plays a role in reading attitude, with girls generally having more favorable attitudes toward reading than boys.

Not all researchers agree, however, that reading attitude significantly affects reading achievement. Johnson and Jacobson (1968), for instance, questioned the belief that attitude is the most important element in educational achievement. They studied children in grades four through six, their attitude toward content and its effect on their comprehension. They concluded that specific differences in comprehension could not be traced to differences in attitude about subject matter.

LaBelle (1964) studied Anglo and Spanish American fifth grade students. His attempt to discover the relationship between academic attitude and academic achievement revealed that high achievers do not necessarily perceive school-related concepts more positively than do middle and low achievers. Roby et al. (1974), further substantiated this with their study which revealed a low and nonsignificant association between pupil attitude and achievement test results. In addition, recent studies by Mikulecky (1976) also indicated that ability and attitude are only slightly related ($r = .30$).

Other studies, however, have supported the significant relationship between reading attitude and reading achievement. Askow and Fischbach's (1973) study of first and third graders

found attitude, as measured by Askov's Primary Pupil Reading Inventory, significantly related to Paragraph Meaning ($p < .05$) but not to Word Reading subtests of the Stanford. This result would appear to be an expected one, as more aspects of the individual personality (including attitudes) are brought into play in the decoding of complete paragraphs than in the decoding of isolated words.

Nielson (1977), also found reading attitude to be significantly and positively related to reading achievement in fourth and sixth graders, while Healy (1965) confirmed these results in fifth grade students. Groff (1962) studied 305 fifth and sixth grade children and reported finding a relationship between general reading ability and attitude toward reading as a school activity approaching a substantial level, with correlations from .34 to .45. Cuchens (1975) studied low income black students in grades six, seven, and eight and reported results indicating that a significant relationship exists between these children's success in reading and their attitudes toward reading. Finally, Peters (1977) concluded from his study of 304 eleventh grade students that attitude is so related to achievement that the Student Self-Assessment Inventory (SSAI), used to measure attitudes about reading and self-perception of reading ability, can actually be used to predict reading performance.

Reading's Effect on Attitude

A review of the literature associated with reading and its effect on reading attitude revealed two areas of possible relationship. One area concerns the effect improvement in reading achievement has on reading attitude and the other deals with the effect the reading program itself has on reading attitude.

Dulin and Mikulecky (1977, p. 73) stated unequivocally that "Improving reading ability is not a sure way to improve reading attitude." At least three studies, however, have seemed to disprove this theory. Rowell (1972) studied children in grades four through eight enrolled in a summer corrective reading program. Although his results were not significant, he did find a positive correlation between reading improvement and attitude change. McCorick, O'Rand, and Carrille (1969) worked with a group of seventh grade students and concluded from their study that when reading achievement improved, reading attitude did too. Wurster (1974) also found that improved reading achievement contributed to improved student attitudes toward reading in 142 second, third, and fourth graders attending a reading resource center. However, Stevens' (1956) study, in which he had found a positive relationship between reading attitude and reading skills in adults, had only minimal support for the hypothesis that improvements in reading skills are positively related to improvements in attitudes.

Regardless of the position one takes on reading achievement and its effect on reading attitude, support for the theory that the reading program itself influences reading attitude can be found. Larson (1975) found that individual or small group tutoring, although not leading to significant differences in reading achievement, did result in improved attitudes toward reading as well as improved self-concept in third grade Mexican-American children. Askow (1973) concluded from her study that individualizing reading instruction can improve reading attitude. She reported from her study of individually and group instructed children in grades two and three that although no significant differences were obtained on reading achievement scores, student attitudes toward recreational reading were significantly higher in the individualized program than in the group program. She also noted a similar study of individualized versus basal reading approach to the teaching of reading in grades one and two by Tieglund and others which found similar results.

Finally, Kibby's (1977) study, already mentioned in this chapter, lends much support to the theory that the type of reading program affects the reading attitude. He studied second grade lower middle class students from a Midwestern suburban school, selecting the best readers from the lowest achieving class of a homogenously grouped reading

program and the worst readers from the highest achieving class. He found that even though the higher achievers were much better readers than the low achievers, they had more negative attitudes toward reading and more negative behaviors in the classroom. He concluded that the subject's expressed attitude toward reading reflected classroom status as a reader, not actual reading ability, and this classroom status as a reader was the result of the type of grouping used in the reading program.

Relationship of Reading Attitude to Self-Concept

Another aspect of reading attitude relevant to this study is the relationship between reading attitude and self-concept. It would appear to be a logical assumption based on a variety of previously discussed factors that the two might be significantly related. Indeed, the very fact that attitude is in some respects an element of self-concept would make the assumption plausible. However, computer searches of ERIC, Dissertation International Abstracts, and Psychological Abstracts, and in-depth searches by the researcher of other available materials, revealed only one study dealing directly and analytically with this relationship. This study by Gardner (1972) involved fourth grade Pima Indian children and statistically supported the significant relationship between self-concept and attitude

toward reading for boys, but found no significant relationships for girls. The data as to the existence of this relationship, as well as to the significance of the relationship if it does exist is, therefore, inconclusive.

III. HOME LITERARY ENVIRONMENT

The values and attitudes of the child are, to a great extent, patterned after the values and attitudes that the parents possess (Smith, 1968). It would seem, therefore, that the child who comes from a positive home literary environment in which reading and reading materials are present and valued would reflect this in his own attitude and achievement in reading. There is, indeed, a large body of research which supports this theory.

Bamberger (1977) reported that a recent study by the International Institute for Children's Juvenile and Popular Literature in Vienna, Austria, found that reading attainment, as measured by speed reading tests, correlated with other factors in the following order: (1) number of books read in previous year, (2) number of books owned, (3) comprehension in the reading test, (4) language quality of student composition. This would appear to support the contention of Bloom (1964) that "an appreciation of literature" and an "availability of books in the home" are important influences on a child's later achieving patterns. At one time, however,

educators turned to socioeconomic status as being the important factor in home environment. Davé (1963) disputed that with his study of environmental variables related to educational achievement. He found that it is what parents do in the home rather than "status characteristics," as many had believed, which are powerful determiners in the home environment. What parents do could include the buying and reading of books, newspapers, and magazines, all aspects of home literary environment as defined in this study.

A number of studies have supported the theory that home environment does play a major role in determining reading achievement. Many of these studies have dealt with prereading and reading activities of primary level children, including both reading readiness and early reading achievement. Brown (1924), Milner (1951), and Paul (1978) all reported on studies which revealed a positive relationship between certain aspects of home environment and reading readiness. Milner (1951) found specifically that the number of books a child owned and how often he was read to at home had a positive and direct relationship to reading readiness in the first grade. Since reading readiness has long been recognized as essential to reading success, it would appear that these studies might also support the importance of the home environment to reading achievement, at least at the early reading stages.

Another group of researchers have studied directly the importance of home literary environment to reading achievement in the primary grades. Almy (1949) studied 116 children tested in reading achievement and rated by their teachers at the end of the first grade. She then interviewed the parents of each student and questioned them on a number of items related to home environment. She concluded that the best readers in this group were children whose experiences in kindergarten, in play, and with adults in the home included experiences with some elements of reading. Although the term "experience with some elements of reading" was defined very broadly, it did include those elements of this study labeled home literary environment. Lamme and Olmsted (1963) also looked at first graders, selecting thirty-eight low income white children at random. They found that the availability of books in the home related to some specific attitudes, habits, and achievements of the child. When all sources (library, bookstore, home, school) were combined, the total was significantly related to reading achievement scores ($r = .58$; $p < .01$).

Shea and Hanes (1977) studied the home environment and reading achievement of 153 children in kindergarten through the second grade. Parents were interviewed in the home by trained paraprofessionals who rated the home on nine dimensions, including "materials for learning in the home"

and "reading press." When these results were correlated with the Metropolitan Achievement Test at the kindergarten and first grade levels and the California Achievement Test in the second grade, a significant relationship was found at each grade level for both of these home factors.

Durkin (1966), who is widely known for her research on early reading children, also studied the effect of the home environment on reading achievement, with an emphasis on children who were reading before they entered the first grade. In her review of published and unpublished research on early reading children prior to 1957, she concluded that preschool (i.e., home) experiences, having in them some elements of reading, can have a positive effect on first grade reading achievement. She studied two separate groups of early readers, one in Oakland, California, and one in New York City. In both groups she found the availability of books in the home important to motivating the preschoolers to want to read, but being read to at home was found to be even more important. Her follow-up study (Durkin, 1970) six years later found the early readers still achieving higher in reading than a matched control group. The difference at grades one and two was large enough to be significant beyond the .05 level, but at grades three and four it was not that significant. She concluded that early readers are not a "special breed" of children, but those

whose mothers were very influential in the early achieving of their children. The home literary environment proved to be very important to successful reading before the first grade and success in reading prior to school proved to predict above average reading achievement in later years. This aspect had earlier been substantiated by Kasdon's (1958) study of college freshmen in which he found that 54% of the superior readers at the college level had read before first grade.

Some studies of reading achievement in the middle grades have also reported a significant relationship to home environment. Alvira-Benitez's (1978) study of fourth grade Puerto Rican children revealed a significant relationship between reading achievement and reading activities of parents and children and parent-child reading interaction. Koppenhaver's (1974) study of fifth grade reading achievement and home environment revealed that the amount of interaction between parents and children is very important. Callaway (1972) found that the amount of reading material in the home was significantly related to reading achievement in fourth and seventh graders. Hansen (1969) also reported the significant relationship of home literary environment to reading achievement. In his analysis of home literary environment he included such things as availability of literary materials in the home, amount of reading done with

the child, reading guidance and encouragement, and parents as models or reading examples.

In their study of 300 students in Grades 2-8 Berry, Parker, and Zwier (1971) found that the number of books owned by a student correlated positively with his reading achievement. Sheldon and Carrillo's (1952) study of 868 pupils in central New York also pointed out the strong relationship between size of home library and reading achievement in eighth grade students. Finally, Prior's (1974) study of sixth grade, low income students in urban New York City found a significant difference in educational home environment between children who achieve and those who do not. He recommended that those specific educational factors present in the environment of the home be isolated and studied.

Studies at the high school level have also supported the significant relationship between home environment and reading achievement. Goodson (1974) studied 21 matched pairs of low income white high school children in rural West Virginia. He matched the pairs as to intelligence, but paired poor readers with good readers. He found that good readers came from homes that furnished more books, magazines, and newspapers and from parents who read more than parents of poor readers.

At least one international study at the high school level related home environment and reading achievement also. Thorndike (1972) reported on a study of fourteen year olds in fifteen countries in which a strong correlation between home reading resources and reading achievement was found in almost every country studied, with the correlation in the United States at .353. One limitation of the study, however, was that the home reading resources were determined by the students rather than by the parents, teachers, or outside interviewers.

Although the majority of the studies concerning the influence of home environment on reading achievement have supported the existence of a significant relationship between the two, a few studies have been conducted which found little or no significant relationship. Robinson (1946) reported on a study of thirty "poor readers" ranging in age from six years to fifteen years. These subjects were studied intensively by a research group including reading specialists, a psychiatrist, a pediatrician, social workers, and others. The experimental data were studied in a variety of relationships, but one discovery was that "the number of books, magazines, or newspapers [in the home] appeared to be unrelated to reading failure" (p. 162). Miller's (1973) study of primary children also revealed surprisingly few relationships between home prereading activities and reading achievement. Likewise, Segesta's (1977) study of

fifth grade Mexican American students revealed no significant difference in mean scores of home environment (as measured by the Wolf Scale of home academic and intellectual environment) between high achieving and low achieving readers.

As can be seen by the research reviewed in this chapter, most of the studies concerning home environment have centered around its relationship to reading or academic achievement. Although many have implied or suggested a strong relationship between home literary environment and reading attitude, only one study could be found which dealt directly with these two factors. This was a study by Lampert and Saunders (1976) of 340 high school students. They found that home background did have a positive correlation with reading attitude, particularly the specific aspects of home background of amount of time read to as a child and number of books in the home.

IV. MEASURING INSTRUMENTS

Stanford Achievement Test (Levels I2 and Advanced): Reading

The Reading Tests are a portion of a larger battery of the Stanford Achievement Test but are printed separately so that they may be used independently of the other tests in the battery. These tests were first published in 1922 but have been kept up to date by periodic reviewing and

editing. This test was normed on a basis of 350,000 pupils selected from all parts of the country, all types of school systems, and all socioeconomic levels.

The content of the test is based on the content of the typical school curriculum, a validity standard which Robinson (1968) and other educators prefer to validation by teacher marks or other reading tests. The test is not diagnostic but is designed to measure two levels of reading achievement, comprehension and meaning. The paragraph section contains simple to difficult paragraphs with one to four words omitted. The student is to choose the correct word. The vocabulary section uses sentence completion, sometimes giving the definition of a word and sometimes asking for a synonym.

Robinson (1968) found the test good as a survey instrument and a "dependable gross measure of reading achievement" (p. 245). Her major criticism of the test dealt with the paragraph meaning section. She felt that this section relies entirely on the use of context and gives an unfair advantage to students who have had much experience and instruction in using context clues. Furthermore, she remarked that the range of comprehension abilities which can be measured is definitely limited by the technique of filling in blanks. She also noted that although these tests are not speed tests, the time limits are rigidly set

and are not to be extended for any reason. Townsend (1968) also spoke well of the Stanford Reading tests. Her major criticism was that above grade level five, a survey test of this nature does not really include the necessary measures of study skills which are so important in the upper grades in regard to reading ability.

Tennessee Self Concept Scale

The Tennessee Self Concept Scale (TSCS) is a standardized test whose purpose is to assess objectively a person's concept of himself. It assesses a variety of dimensions of self-evaluation, including physical self, moral-ethical self, personal self, family self, and social self. The scale consists of 100 self-descriptive statements, of which 90 assess self-concept and 10 assess self-criticism. For each item the student chooses one of five responses, ranging from "completely false" to "completely true." The scale was normed on a sample of 626 persons of varying age, sex, race, and socioeconomic level and is designed for use with subjects age twelve and over.

Reviewers of the TSCS (Bentler, 1972; Suinn, 1972; and Crites, 1965) stated that the scale is, in general, a valid measuring instrument. They commented that it does correlate with other personality inventories, such as the Minnesota Multiphasic Personality Inventory (MMIP) and the

Edwards Personal Preference Schedule (EPPS) (see Appendix A).

The major criticism of all the reviewers had to do with its rationale as explained in the manual rather than the test's construction. They seemed to object to Fitts' contention that his scale is "simple for the subject, widely applicable, well standardized, and multidimensional in its description of the self concept" (Fitts, 1964, p. 1). Each also commented on the difficulty and tediousness of the scoring procedures.

Mikulecky Behavioral Reading
Attitude Measure

The Mikulecky Behavioral Reading Attitude Measure

(MBRAM) was developed by Mikulecky as part of his research begun in 1976. He normed the instrument with over 1700 seventh grade and above students as a measure of secondary students' reading attitudes in urban, suburban, and rural junior and senior high schools. The MBRAM contains twenty items and is not timed, although a reasonable time limit is suggested.

The MBRAM was developed along the lines of Krathwohl's stage-like taxonomy of educational objectives and provides empirical indications of the validity of the taxonomy (Dulin and Mikulecky, 1977). Krathwohl's taxonomy contains five stages. The first stage is the attending stage where the individual is generally aware of reading and tolerant of it. This stage is represented by items 1, 3, 5, and 7

on the MBRAM. The second stage is one of responding, where the individual is willing to read under particular circumstances and begins to choose, and at times enjoy, reading on his own. This stage is represented by items 11, 14, and 16. The third stage is called valuing. This is the stage where the individual begins to value reading over other activities and is represented by items 13, 15, 17, 18, 19, and 20. Organization is the fourth stage and at this level the individual has made reading a part of an organized value system to the point that is almost instinctive. Items 9, 10, and 12 represent this level. The fifth and final stage is called characterization. At this stage reading has become so much a part of his life that the reader sees reading as crucial. Items 2, 4, 6, and 8 on the MBRAM represent this stage (Dulin and Mikulecky, 1977, p. 81).

V. SUMMARY

A review of the literature relating to self-concept revealed that although the self-concept is a hypothetical construct, its existence is supported by most researchers and theoreticians in the field of social psychology. No one definition of self-concept is agreed upon by all, but most of the definitions do have some of the same basic components, specifically perceptual, conceptual, and attitudinal components. Since the self-concept has yet to be universally defined it is understandably difficult

to measure. However, a number of instruments have been constructed which reportedly do measure self-concept. In general, these instruments measure the various aspects of self-concept through the self-report, the projective, or the observational technique, or through a combination of these techniques.

The majority of the studies concerning self-concept and its relationship to school have shown a significant and positive relationship, with the school environment influencing the self-concept and the self-concept influencing the behavior in the school. Many studies have also indicated that the present school system in the United States may be having a more negative than positive effect on the development of the self-concept in many children.

Although not all studies are in agreement, the majority of the studies support the fact that the self-concept is a significant, and perhaps even causal, factor in the academic achievement of the student. Although few supportative studies have been conducted in the lower grades, a great number of studies in the middle and upper grades have supported the highly significant relationship between self-concept and academic achievement.

From the research data it would also seem that a child's self-concept is significantly related to reading achievement, and that the higher the achieved grade level in school, the

higher the significance. Although some studies have contradicted the high significance of this relationship, especially in the primary grades, the majority do support the significance of the relationship. It has also been indicated that the relationship is greater for boys than for girls. However, there exists very little empirical support for the theory that improvement in self-concept will produce improvements in reading and/or academic achievement, and little support for the notion that one or the other is a causal factor in the relationship.

The multitudinous research on the effect of reading achievement and/or reading materials on the self-concept is also generally supportive of a highly significant relationship. Various methods of grouping for reading achievement have also proven significantly related, either positively or negatively, to self-concept, with individualized methods proving most positive and homogenous groupings most negative. Bibliotherapy has also been proven to be an effective vehicle by which reading materials can enhance self-concept.

A review of the literature of studies relating to attitude revealed, as with self-concept, conflicting views about the definition but a general agreement that attitude is significantly related to reading achievement. There is also some concensus that it can be measured. For example,

Epstein (1977) and Rowell (1972) both determined that attitude can be measured by observation, while Greene and Zirkel (1976) concluded that a combination of verbal-report and observation can best be used to measure attitude.

Generally, reading attitude has been found to have a strong effect on reading interest and reading achievement. Some researchers (Hunt, 1970; Koe, 1975) found reading attitude to be as important as reading skills to reading achievement. Other researchers (Dechant, 1970; Fader et al., 1976) cited a negative reading attitude as being the basic problem of the reluctant reader.

Reading's effect on attitude was studied from two areas of possible relationship—the effect improvement in reading achievement has on reading attitude and the effect the reading program itself has on reading attitude. Although some studies indicated that improving reading achievement does not necessarily improve reading attitude, most studies produced results indicating that it does. It was also found that the type of reading program significantly affects reading attitude, with an individualized and/or tutor system being the most positively related, and that girls generally have more favorable attitudes toward reading than boys. However, little empirical evidence was found to support a significant relationship between reading attitude and self-concept.

From the research data reviewed, it also seems that the home literary environment of the child may significantly

influence the reading attitude, reading achievement, and self-concept of the child. The environmental characteristics which appear to be particularly potent include number of books in the home, availability of newspapers and magazines in the home, and how often the child was read to in the home. This relationship has been found to be significant at all levels, from prereading to college.

In addition, a review of the literature relating to the measuring instruments used in this study lead to the following conclusions. The Stanford Achievement Test (Levels I 2 and Advanced): Reading is a valid, generally accepted measure of two levels of reading achievement, comprehension and word meaning. It has been periodically reviewed and updated with a varied selection of students from all parts of the country. The Tennessee Self Concept Scale is a standardized test which is generally accepted as a measure of a person's concept of himself and which does correlate with other widely accepted self-concept inventories such as the Minnesota Multiphasic Personality Inventory and the Edwards Personal Preference Schedule. Finally, the Mikulecky Behavioral Reading Attitude Measure is a valid measure of reading attitude developed along the lines of Krathwohl's five stage taxonomy of educational objectives.

CHAPTER III

PROCEDURES

The purposes of this study were to determine what, if any, relationships exist among reading attitude, self-concept, reading achievement, and specific aspects of home literary environment and to determine whether factors such as sex and grade level significantly affect the correlations. The specific aspects of home literary environment studied were amount read to as a child, number of books owned, number of magazines in the home on a monthly basis, number of nonschool required books read in the previous year, and amount of newspaper read on a daily basis. The following steps were taken to accomplish these purposes: (1) selection of the sample population, (2) selection of the measurement instruments, (3) administration of instruments, and (4) treatment of the data.

I. SELECTION OF THE SAMPLE POPULATION

The subjects for this study were selected from the sixth, seventh, and eighth grades at Greeneville Middle School in Greeneville, Tennessee. The total population of this study consisted of all students in the school.

Greeneville is a small, rural town in East Tennessee with a total population of approximately 14,800. The

school was organized in 1974 when sixth grade students were taken from all the elementary schools within the city and joined the seventh and eighth grade junior high students in a new, modern facility. The school is set up on a departmentalized basis, with each student being assigned to a homeroom through a random process of each teacher at each grade level taking every nth student from an alphabetized list. Opportunity for participation in this study was given to every student whose enrichment period fell on Tuesday and Thursday. This included approximately one-half of the student population or every other homeroom class. Enrichment period is a time set aside twice a week for all students, with homeroom teachers being responsible for the way the time is spent.

The subjects participating in this study ranged in age from 11-14 (sixth grade), 12-15 (seventh grade), and 13-15 (eighth grade). However, the majority of sixth grade students were 12 years of age, the majority of the seventh grade students were 13, and the majority of the eighth grade students were 14. Of the total sample population ($n = 163$), 87 were female and 76 were male. The population consisted of 55 sixth graders, 31 females and 24 males; 52 seventh graders, 25 females and 27 males; and 56 eighth graders, 31 females and 25 males.

The total population of Greeneville Middle School is representative of a wide range of achievement and

socioeconomic levels. The 1977 average family income of a student at Greeneville Middle School is approximately \$12,000 per year. This figure is both lower than the \$15,677 average income for Tennesseans in 1977, and lower than the \$18,723 average in the United States. The mean achievement level, as indicated by the total battery score from the Stanford Achievement Tests, for sixth graders at Greeneville Middle School is 7.1 as compared with the nationally standardized score of 6.8; for seventh graders, 7.4 compared to the national average of 7.8; and for eighth graders, 8.5 compared to the 8.8 national mean. The mean achievement score of the sixth grade total population is thus 3 months over the national average, the seventh grade is 4 months below the national average, and the eighth grade is 3 months below the national average. However, none of these means differed enough as to indicate that students at Greeneville Middle School were atypical of middle school students in the nation as a whole. A comparison of the variable reading achievement (RDACH) of the sample population with the total population at Greeneville Middle School is found in Table 1. This variable was used to compare the sample population with the total population because it is the only variable that is known for the total population.

Middle school students were selected as an appropriate age group for the study for the following reasons:

TABLE 1
COMPARISON OF RDACH* OF SAMPLE POPULATION
TO RDACH OF TOTAL POPULATION

Popu- lation	Grade 6			Grade 7			Grade 8		
	N	Mean	sd	N	Mean	sd	N	Mean	sd
<u>Total</u>									
	2.18	7.50		223	7.60		238	8.60	
	Range 3.0-10.5			Range 3.0-12.8			Range 3.0-12.8		
<u>Sample</u>									
	55	7.66	2.37	52	7.15	2.70	56	9.51	2.47
	Range 3.0-10.5			Range 3.0-12.8			Range 4.8-12.8		

*Reading Achievement.

1. Middle schools comprised of grades six, seven and eight are becoming increasingly popular in this country, but seldom have these three grades been studied as a group. Generally, sixth graders are studied as part of the elementary school group while seventh and eighth graders are usually viewed as part of the junior high or secondary schools (Duffy, 1974).

2. Pupils of this age group have been exposed to reading and the school environment long enough to have established stable concepts of themselves, their status in the school setting, their attitudes toward reading, and their relationship with others.

3. At these grade levels children have reached a stage in reading development that is no longer termed learning to read but instead is labeled reading to learn (Logan and Logan, 1972).

4. Sixth, seventh, and eighth grade students are not as likely to have developed the defensive attitudes sometimes acquired by high school students and can be expected to respond truthfully to self reports (Coopersmith, 1959).

5. Sixth, seventh and eighth grades represent a midpoint in the school years for the vast majority of students.

6. Age eleven is when the conceptual aspect of the self-concept begins to crystalize (Jersild, 1952).

The subjects' achievement level in reading was determined by the total reading score on the Stanford Achievement Test, Intermediate level, Form 2 for the sixth graders and the Advanced level for the seventh and eighth graders. The group testing was done by the classroom teachers in April 1978.

Each subject's self-concept was measured by the Tennessee Self Concept Scale, Clinical and Research Form. This scale identifies a high, low, or average score in total self-concept. A variability score is included to determine how consistent or inconsistent the subject is from one area of self-perception to another. The investigator administered this scale to the subjects in June 1978.

Each subject's attitude toward reading was rated on a progressive scale as a result of his scores on the Mikulecky Behavioral Reading Attitude Measure (MBRAM) and in accordance with Krathwohl's stage-like taxonomy of educational objectives (Dulin and Mikulecky, 1977). This measure was administered by the investigator in June 1978.

The information on home literary environment was acquired through the use of a short questionnaire administered at the same time as the reading attitude measure. Two of the questions required a Likert-type, five-point scale response and three required numerical responses. The

numerical answers ranged from 0 to 400 on number of books owned with the average response being 25, 0 to 50 on number of magazines in the home on a monthly basis with the average response being 4, and 0 to 500 for number of nonschool required books read in the previous year with the average response of 10.

II. SELECTION OF THE MEASUREMENT INSTRUMENTS

The Mikulecky Behavioral Reading Attitude Measure (MBRAM) was selected to determine the reading attitude of each subject. It was appropriate for this study in that it was designed specifically for grades seven through twelve. Although it was designed and normed with children of this level and did not include sixth grade children as did this study, the decision was made to use this scale after consultation with Mikulecky indicated that the MBRAM should be appropriate for sixth graders in a middle school environment, if allowances were made for any difficulty these younger students might encounter in reading level. This scale is the only one of its type which rates reading attitude on a behavioral scale and was thus considered more valid when used with self-concept.

The MBRAM includes twenty statements about reading (see Appendix B). The subjects responded to each statement by marking a Likert-type scale (see Appendix B) which

included five choices (very unlike me 1 2 3 4 5 very like me). A score of 5 was assigned for a very positive response, 4 for a positive response, 3 for a neutral or undecided response, 2 for a negative response, and 1 for a very negative response.

The validity of the MBRAM was checked in two ways. First, correlations of concurrent validity ranging from .446 to .770 had previously been established with such formal reading attitude measures as the Estes Scale, the Dulin-Chester Scale, and the Kennedy-Halinski Reading Attitude Measure, with the MBRAM correlating more highly with the Estes Scale and the Dulin-Chester Scale than either of those measures did with the other.

Second, to establish construct validity, five informal criteria for reading attitude (Self-reported Liking and Amount of Reading, Teacher and Classmate judgement of reading-attitude, and Number of books read in 6 months) were administered along with the MBRAM. All MBRAM correlations with these informal criteria were significant to the $p < .001$ level and the majority of correlations ranged from .500 to .791. The MBRAM also demonstrated a test-retest reliability of .9116 (Mikulecky, 1976).

The Stanford Achievement Test, Intermediate Level I 2 and Advanced: Reading (Madden and others, 1973) was used to determine a reading achievement level for each subject.

The Stanford was chosen because it was both economical and convenient and met the needs of this study. It was convenient and economical because it was used in the Greeneville City School System to determine the reading achievement level of all sixth, seventh, and eighth grade students. The tests were provided by the Greeneville City system and administered to all students by the classroom teachers during the months of April and May 1978. The tests were then scored by computer and the results returned to the system. This test met the needs of the study by providing a total reading score for each subject.

The validity of the Stanford Achievement Test had been previously determined through a national tryout program in selected schools throughout the country. These schools represented "various population statistics of the United States such as city size, geographic location, median family income, median years of schooling, and enrollment" (Madden and others, 1973, p. 8). The sample included 61,000 subjects in 1,445 classrooms from 47 school systems. For the construction of the final form of the test, item discrimination indices were obtained based on the "upper" and "lower" 27% and a biserial correlation was calculated. The reliability of the Stanford Achievement Test was .94 or above for reading on two different coefficients, the Spearman-Brown Formula and the Kuder-Richardson Formula 20 (Madden and others, 1973).

The Tennessee Self Concept Scale was used to assess the self-concept of each subject. This test was chosen upon consultation with an authority in the field of Educational Psychology at The University of Tennessee, Knoxville. It can be used with subjects age twelve or older who have at least a sixth grade reading level and is "applicable to the whole range of psychological adjustment from healthy, well adjusted people to psychotic patients" (Fitts, 1964, p. 1). It is also short, only 100 items, and easy to administer in a large group. Since the majority of the subjects were age 12 or over (only 18 students were below 12), it was considered a reliable test. Due to the fact that a number of the students did not have a sixth grade reading level, the examiner read aloud each statement and the group took the test item by item en masse. If any student did not understand the statement, time was taken to explain it fully. The subjects responded to each of the 100 items by marking a Likert-type scale (see Appendix C) which included five choices (completely false, mostly false, partly false and partly true, mostly true, and completely true).

This scale was normed with a broad representative sample of 626 people ranging in age from 12 to 68. Data collected later with other, more select groups, showed group means and variances comparable to those of the norm

group. It provides a variety of scores, both for counseling and clinical use, but the score provided by the Total Positive category was the only score used for this study. This score was identified by Fitts (1964) as reflecting the overall level of self-concept, with the higher scores interpreted as reflecting a more positive self-concept and the lower scores reflecting a more negative self-concept.

The reliability of the scale had been previously determined by test-retest reliability coefficients of all major scores. This indicated a self-criticism $r = .75$, total conflict of $.74$, and total score of $.92$. The author cited other evidence of reliability such as the similarity of profile patterns found through measuring the same individual over long periods of time (Fitts, 1964, p. 15).

The validity of this scale was measured through four approaches: (1) content validity, (2) discrimination between groups, (3) correlation with other personality measures, and (4) personality changes under particular conditions. The content validity was determined by a panel of seven clinical psychologists who judged each item. An item was retained only if there was unanimous agreement by the judges that it was classified correctly. The measure of discrimination between groups was taken by performing a statistical analysis of a group of 369 psychiatric patients compared with the 623 nonpatients of the norm group. This demonstrated

highly significant (.001 level) differences between patients and nonpatients for almost every score. This scale also correlated highly with the Minnesota Multiphasic Personality Inventory (MMIP) (see Appendix A). Finally, personality changes under particular conditions, were found, in a number of different studies, to affect scores on the TSCS, and the TSCS reflected these changes in predicted ways (Fitts, 1964).

Questions on home literary environment were included in this study after numerous references were found during the review of related literature to specific aspects of home environment and their possible or acknowledged influence on achievement, attitude, and self-concept. Those items most often indicated were included in this study. The questions were designed by the investigator for ease in answering and scoring (see Appendix D). Three questions required numerical answers (number of books owned, number of books read last year, number of magazines in the home on a monthly basis), and two questions required Likert-type responses (none, a little, some, much, a great deal), specifically the questions concerning how much the subject was read to as a child and what percent of the newspaper he reads on a daily basis.

III. ADMINISTRATION OF THE INSTRUMENTS

After permission to conduct the study was granted by the Assistant Superintendent of the Greeneville City Schools Dr. Ben Hankins and the principal of the Greeneville Middle School Mr. Gary Haaby, the teachers at the school were briefed on the purpose and scope of the study, the time required to administer the two measuring instruments, and the information to be taken from the Stanford Achievement Test. The decision was made by the teachers and the principal to set aside two days during the first week in June for the administration of the measuring instruments. Since the teachers desired to disrupt regular classes as little as possible, the decision was made to administer the instruments during the enrichment classes held on Tuesdays and Thursdays. Approximately one-half of the total student population was scheduled to take enrichment classes on Tuesdays and Thursdays, with the rest of the students scheduled for Mondays and Wednesdays. Those students who did not participate but were scheduled for enrichment classes on the two days assigned for the study were to remain in their homerooms for quiet study periods.

One week before the test administration, the investigator went to the schools and met with all students scheduled for enrichment on Tuesday and Thursday. These students came together in three large groups by grade level. They were

told about the study and the measurement instruments to be used and were asked to participate. Each student was given a consent form (see Appendix E) to take home to his or her parents. This form explained briefly the purposes and nature of the study and asked parental permission for the child to be allowed to participate in the research project. The child was also required to sign a consent form (see Appendix E). Only those subjects securing parental permission participated in the study.

During the first week in June the investigator went into the school and administered the Tennessee Self Concept Scale on Tuesday and Mikulecky Behavioral Reading Attitude Measure and the questions concerning home literary environment on Thursday. The instruments were discussed with the students and they were again given a choice whether or not they wanted to participate. Since a number of subjects said that they had parental permission but had lost or forgotten their consent form, these subjects were allowed to participate in the study on the condition that they would obtain a written consent from their parents before the end of the 1977-78 school year (one and one-half weeks away). Only the scores of those subjects who did return written consent forms were used in the statistical analysis.

Because the scores on the Reading Achievement section of the Stanford Achievement Test had already indicated that

some students were reading below a sixth grade reading level, both formal measuring instruments were read aloud to all subjects during administration as they followed and responded in writing on their individual copies. This was done to help insure that those students reading below sixth grade level would be able to read and understand the statements. The students were encouraged to ask questions if there was anything which they did not understand about the statements or how to respond.

IV. TREATMENT OF THE DATA

After the data were collected (see Appendix F), several statistical analyses were conducted using both the SPSS (Statistical Package for the Social Sciences) and SAS (Statistical Analysis System) computing software packages.

Pearson Correlation coefficients were computed among all eight variables and were subsequently used in the regression designs. A Two-Way Factorial Analysis of Variance was used to examine the main effects of grade, sex, and the interaction effect of sex and grade on each of the eight dependent variables. Whenever significant mean differences were found, the Duncan's Multiple Range Test was used as the post hoc test to assess where the differences were occurring.

Regression analyses were examined for the entire sample population, for each sex (male and female), for each grade

(six, seven, and eight), and for all combinations of sex and grade for the each of the eight dependent variables (MBRAM, READTO, BKSOWN, MAGA, BKS RD, NWSRD, RDACH, and SC). In each regression analysis the author's intent was to see which set of variables best predicted one of the other variables. Each variable was treated as a dependent variable in one analysis. Variables were introduced into the multiple regression equations using a step-wise, forward linear regression technique.

The variable entering at each step was the variable whose partial correlation coefficient with the dependent variable, after partialling out all variables already entered, was largest. When the entrance of a variable into the equation no longer significantly affected the degree of variability accounted for by the equation, the equation was considered complete and the remaining variables were not included. Since the scales upon which the data were measured were not all uniform, the Beta or standardized regression coefficients rather than the unstandardized coefficients were used to facilitate interpretation.

Because of the large number of analyses examined and to protect against an inflated level of significance, the decision was made to use $p = .01$ as the level of significance. Any correlations above this level will not be reported as significant.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

I. INTRODUCTION

A number of hypotheses were investigated in this study. The author's general intent was to examine the degree of linear relationship (using multiple regression analysis) between a criterion variable and one or more independent variables. The relationships were not only investigated across the entire sample but were also investigated when the sample was qualified for sex, for grade level, and for sex/grade level combinations.

The criterion variables examined in these analyses included attitude toward reading (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books (books not required read as fulfillment for classroom assignments) read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The Statistical Analysis Package (SAS) and the Statistical Package for the Social Sciences (SPSS) were used to analyze the data using an IBM 370/158 computer.

Pearson Correlation coefficients were computed among all eight variables and were subsequently used in the regression designs. A Two-Way Factorial Analysis of Variance was used to examine the main effects of grade, sex, and the interaction effect of sex and grade on each of the eight dependent variables. Whenever significant mean differences were found, the Duncan's Multiple Range Test was used as the post hoc test to assess where the differences were occurring.

The level of probability used to assess significance in all analyses was $p \leq .01$. When the entrance of a variable into the regression equation no longer significantly affected the degree of variability accounted for by the equation, the equation was considered complete and the remaining variables not in the model were not included. If no variable or combination of variables combined to form a regression equation whose F value was significant, only the single variable having the greatest magnitude of correlation with the dependent variable was included in the regression formula. This equation was then identified as the best regression equation. All equations will be reported in table form, but only those regression models significant at or beyond the .01 level will be discussed in the text.

The reading attitude of the 163 subjects was determined by the Mikulecky Behavioral Reading Attitude Measure (Mikulecky, 1977). Information concerning home literary

environment (READTO, BKSOWN, MAGA, BKS RD, and NWSRD) was assessed by a writer-made questionnaire (see Appendix D) answered by all subjects. Reading Achievement was determined by the Stanford Achievement Test, Intermediate Level II, Form A and Advanced Level, Forms A and B (Madden and others, 1973) and reported in a grade level score. Self-concept was determined by the TP (total positive) score made on the Tennessee Self Concept Scale (Fitts, 1964).

II. DESCRIPTIVE DATA

Measures of central tendency and other descriptive data were examined for each of the eight variables. Tables 2-6 contain certain descriptive data for the eight variables, specifically, the mean, the standard deviation, the minimum obtained value, the maximum obtained value, the standard error of the mean, the medium, and the mode. The information is reported for the entire sample as well as for each of the eleven subgroups.

A summary of the descriptive data indicated that mean differences did appear across the variables, as expected, due to the nature of the responses. Sex seemed to be a contributing factor to variable BKS RD. Grade level appeared a contributing factor to BKS RD, BKSOWN, and RDACH, with the number of books read or owned decreasing with each successively higher grade level.

TABLE 2

DESCRIPTIVE DATA FOR ENTIRE SAMPLE

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
MBRAM	2.18	1.35	0	5	.11	2	2
READTO	3.71	1.22	1	5	.10	4	5
BKSOWN	41.44	56.42	0	400	4.42	25	--*
MAGA	5.84	5.80	0	50	.45	4	3
BKSRD	31.25	60.53	0	500	4.74	10	10
NWSRD	2.38	1.02	1	5	.10	2	2
RDACH	8.13	2.70	3.0	12.8	.21	8.1	12.8
SC	313.58	30.23	241	389	2.37	312	--*

*No one score occurring most frequently.

Legend: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 MAGA = number of magazines in the home monthly
 BKSRD = number of nonschool required books read in the previous year
 NWSRD = amount of newspaper read on daily basis
 RDACH = reading achievement
 SC = self-concept

TABLE 3

DESCRIPTIVE DATA FOR FEMALES/MALES

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>FEMALES</u>							
MBRAM	2.29	1.45	0	5	.16	2	2
READTO	3.90	1.25	1	5	.13	4	5
BKSOWN	41.57	60.81	0	400	6.52	25	-*
MAGA	6.03	6.94	0	50	.74	4	3
BKSRD	34.95	59.01	0	300	6.32	10	5
NWSRD	2.47	1.05	1	5	.11	2	2
RDACH	8.23	2.56	3.0	12.8	.27	8.3	10.5
SC	310.87	29.50	247	389	3.16	309	299
<u>MALES</u>							
MBRAM	2.29	1.45	0	5	.17	2	1
READTO	3.50	1.15	1	5	.13	4	4
BKSOWN	41.28	51.32	1	300	5.89	25	-*
MAGA	5.62	4.18	0	20	.48	5	3

TABLE 3 (continued)

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
BKSRD	27.00	62.35	0	500	7.15	10	10
NWSRD	2.28	0.97	1	5	.11	2	2
RDACH	8.02	2.86	3.0	12.8	.33	7.9	12.8
SC	316.67	30.94	241	384	3.55	312	—*

*No one score occurring most frequently.

Legend: MBRAM = reading attitude

READTO = amount read to as a child

BKSOWN = number of books owned

MAGA = number of magazines in the home monthly

BKSRD = number of nonschool required books read in the previous year

NWSRD = amount of newspaper read on daily basis

RDACH = reading achievement

SC = self-concept

TABLE 4

DESCRIPTIVE DATA FOR GRADES 6, 7, 8

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>GRADE 6</u>							
MBRAM	2.69	1.40	0	5	.19	2	2
READTO	3.95	1.25	1	5	.17	4	5
BKSOWN	50.24	71.79	2	400	9.68	30	50
MAGA	4.98	3.39	0	15	.45	4	—*
BKSRD	44.93	63.58	0	300	8.57	20	10
NWSRD	2.53	1.12	1	5	.15	2	2
RDACH	7.66	2.37	3.0	10.5	.32	7.9	10.5
SC	317.36	29.51	266	384	3.98	311	—*
<u>GRADE 7</u>							
MBRAM	2.00	1.34	0	5	.19	2	2
READTO	3.50	1.21	1	5	.17	4	4
BKSOWN	40.85	45.77	0	250	6.35	25	—*
MAGA	5.02	3.53	0	16	.49	3	10
BKSRD	24.92	45.50	0	250	6.31	0	0
NWSRD	2.25	0.84	1	5	.12	2	2
RDACH	7.16	2.70	3.0	12.8	.37	7.1	3.0
SC	317.62	30.96	247	389	4.29	321	322

TABLE 4 (continued)

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>GRADE 8</u>							
MBRAM	1.86	1.18	0	5	.16	2	1
READTO	3.68	1.16	1	5	.16	4	5
BKSOWN	33.34	47.19	0	232	6.31	20	26
MAGA	7.95	8.52	0	50	1.14	5	3
BKSRD	23.68	67.98	0	600	9.09	8	—*
NWSRD	2.36	1.07	1	5	.14	2	2
RDACH	9.51	2.47	4.8	12.8	.33	10.0	12.8
SC	306.11	29.34	241	377	3.92	299	281

*No one score occurring most frequently.

Legend: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 MAGA = number of magazines in the home monthly
 BKSRD = number of nonschool required books read in the previous year
 NWSRD = amount of newspaper read on daily basis
 RDACH = reading achievement
 SC = self-concept

TABLE 5

DESCRIPTIVE DATA FOR FEMALES/GRADES 6, 7, 8

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>FEMALES/GRADE 6</u>							
MBRAM	2.94	1.44	0	5	.26	2	2
READTO	4.29	1.01	1	5	.18	5	5
BKSOWN	48.87	73.66	2	400	13.22	30	50
MAGA	4.58	3.26	0	15	.59	4	4
BKSRD	54.71	74.71	0	300	13.41	21	3
NWSRD	2.68	1.22	1	5	.22	2	2
RDACH	7.98	2.17	4.3	10.5	.39	8.1	10.5
SC	313.13	26.39	261	374	4.74	311	—*
<u>FEMALES/GRADE 7</u>							
MBRAM	2.28	1.64	0	5	.33	2	2
READTO	3.76	1.23	1	5	.25	4	5
BKSOWN	46.64	56.96	0	250	11.39	25	—*
MAGA	4.56	3.36	0	15	.67	4	3
BKSRD	36.76	62.35	0	250	12.47	10	0
NWSRD	2.36	0.76	1	5	.15	2	2
RDACH	7.35	2.78	3.0	12.8	.56	6.9	—*
SC	316.56	35.61	247	389	7.92	322	322

TABLE 5 (continued)

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>FEMALES/GRADE 8</u>							
MBRAM	1.65	0.95	0	5	.17	2	2
READTO	3.61	1.41	1	5	.25	4	5
BKSOWN	30.19	48.69	0	232	8.74	12	—*
MAGA	8.68	10.35	0	50	1.86	5	3
BKSRD	13.74	20.46	2	100	3.67	5	5
NWSRD	2.35	1.08	1	5	.19	2	2
RDACH	9.19	2.48	4.8	12.8	.15	8.3	—*
SC	304.03	26.53	256	360	4.76	299	—*

*No one score occurring most frequently.

Legend: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 MAGA = number of magazines in the home monthly
 BKSRD = number of nonschool required books read in the previous year
 NWSRD = amount of newspaper read on daily basis
 RDACH = reading achievement
 SC = self-concept

TABLE 6

DESCRIPTIVE DATA FOR MALES/GRADES 6, 7, 8

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>MALES/GRADE 6</u>							
MBRAM	2.38	1.31	0	5	.27	2	2
READTO	3.50	1.41	1	5	.29	4	4
BKSOWN	52.00	70.83	2	300	14.46	30	-*
MAGA	5.50	3.44	0	15	.70	5	-*
BKSRD	32.29	43.74	1	200	8.93	15	10
NWSRD	2.33	0.96	1	5	.20	2	2
RDACH	7.24	2.58	3.0	10.5	.53	7.4	10.5
SC	322.83	32.88	273	384	6.71	312	-*
<u>MALES/GRADE 7</u>							
MBRAM	1.74	0.90	0	5	.17	2	1
READTO	3.26	1.16	1	5	.22	4	4
BKSOWN	35.48	32.46	1	100	6.42	20	50
MAGA	5.44	3.70	0	16	.71	5	5
BKSRD	13.96	14.60	0	50	2.81	10	10
NWSRD	2.15	0.91	1	5	.18	2	2
RDACH	6.96	2.66	3.0	12.8	.51	7.1	3.0
SC	318.59	26.60	261	356	5.12	319	-*

TABLE 6 (continued)

Variable	Mean	Standard Deviation	Minimum	Maximum	Standard Error	Medium	Mode
<u>MALES/GRADE 8</u>							
MBRAM	2.12	1.39	0	5	.27	2	1
READTO	3.76	0.78	1	5	.16	4	3
BKSOWN	37.24	45.96	1	100	9.19	20	20
MAGA	5.92	5.31	1	20	1.06	4	3
BKSRD	36.00	98.90	0	500	19.78	10	10
NWSRD	2.36	1.08	1	5	.22	2	2
RDACH	9.91	2.44	4.9	12.8	.49	10.1	12.8
SC	308.68	32.88	241	377	6.58	296	296

*No one score occurring most frequently.

Legend: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 MAGA = number of magazines in the home monthly
 BKSRD = number of nonschool required books read in the previous year
 NWSRD = amount of newspaper read on daily basis
 RDACH = reading achievement
 SC = self-concept

III. TWO-WAY FIXED FACTORIAL ANALYSIS OF VARIANCE

Before examining the degree of linear relationship in the set of data, the author hypothesized that perhaps sex or grade differences might exist across these same criterion variables. Therefore, a two-way fixed factorial analysis of variance design was used to examine the following null hypotheses for each of the eight variables:

1. There are no mean sex differences on the criterion variable.
2. There are no mean grade differences on the criterion variable.
3. There are no mean sex/grade interaction differences on the criterion variable.

Two levels of sex—male and female—and three levels of grade—Grade 6, Grade 7, and Grade 8—were used. The results of the analyses of variance are in Table 7.

A summary of this table reveals that for variables MBRAM and RDACH, grade level exerted a significant main effect beyond the $p = .01$ level. The interaction effect for grade and sex was almost significant for the dependent variable MBRAM, thus indicating that grade effect was more pronounced for one sex than for the other.

The Duncan Multiple Range test was the post hoc test used to assess where the mean differences were occurring.

TABLE 7

ANALYSIS OF VARIANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Dependent Variable: MBRAM (reading attitude)					
Main Effect					
Sex	1.75	1	1.75	1.04	0.31
Grade	18.61	2	9.35	5.55*	0.00
Interaction Effect	9.55	2	4.78	2.85	0.06
Residual	263.46	157	1.68		
Total	296.48	162			
Dependent Variable: READTO (amount read to as a child)					
Main Effect					
Sex	5.86	1	5.86	4.15	0.04
Grade	3.95	2	1.98	1.40	0.25
Interaction Effect	6.31	2	3.16	2.23	0.11
Residual	222.05	157	1.41		
Total	239.48	162			
Dependent Variable: BKSOWN (number of books owned)					
Main Effect					
Sex	4.33	1	4.33	0.00	0.97
Grade	7,678.19	2	3,839.10	1.19	0.31
Interaction Effect	2,435.25	2	1,217.63	0.38	0.69
Residual	505,209.38	157	3,217.89		
Total	515,594.07	162			
Dependent Variable: MAGA (number of magazines in home monthly)					
Main Effect					
Sex	4.07	1	4.07	0.13	0.42
Grade	188.61	2	94.31	2.90	0.18
Interaction Effect	121.78	2	60.89	1.87	0.79
Residual	5,104.99	157	32.52		
Total	5,451.85	162			

TABLE 7 (continued)

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Dependent Variable: BKSRD (number of nonschool required books read in previous year)					
Main Effect					
Sex	2,361.00	1	2,361.00	0.66	0.42
Grade	12,173.55	2	6,086.78	1.71	0.18
Interaction Effect	18,299.96	2	9,149.98	2.58	0.08
Residual	557,634.80	157	3,551.81		
Total	593,616.18	162			
Dependent Variable: NWSRD (amount of newspaper read daily)					
Main Effect					
Sex	1.36	1	1.36	1.30	0.26
Grade	1.70	2	.85	0.81	0.45
Interaction Effect	0.85	2	.43	0.41	0.67
Residual	164.13	157	1.05		
Total	168.42	162			
Dependent Variable: RDACH (reading achievement)					
Main Effect					
Sex	0.77	1	0.77	0.12	0.73
Grade	175.42	2	89.71	13.86*	0.00
Interaction Effect	15.76	2	7.88	1.25	0.29
Residual	993.31	157	6.33		
Total	1,178.94	162			

TABLE 7 (continued)

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Dependent Variable: SC (self-concept)					
Main Effect					
Sex	1,202.65	1	1,202.65	1.33	0.25
Grade	4,753.15	2	2,376.58	2.63	0.07
Interaction Effect	405.23	2	202.62	0.22	0.80
Residual	141,639.90	157	902.16		
Total	148,027.79	162			

*Significant beyond the .01 level.

The Duncan post hoc test revealed that for variable MBRAM, the mean value of Grade 6 (2.69) was significantly higher than the means for Grade 7 (2.00) and Grade 8 (1.86). The test also revealed that the mean value for RDACH for Grade 8 (9.51) was significantly higher than the mean values for Grades 6 (7.66) and 7 (7.15). This was, however, an expected difference as reading achievement theoretically progresses by 1.0 points each year in school.

IV. HYPOTHESIS 1

The following null hypothesis was proposed: There is no degree of linear relationship between reading attitude (MBRAM) and some linear combination of the following variables, amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well reading attitude, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable MBRAM is found in Table 8. Reading attitude

TABLE 8
DESCRIPTIVE DATA FOR VARIABLE MBRAM* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	0-5	87	2.29	1.45	.25
Males	0-5	76	2.07	1.23	.24
Grade 6	0-5	55	2.69	1.40	.36
Grade 7	0-5	52	2.00	1.34	.28
Grade 8	0-5	56	1.86	1.18	.25
F/6	0-5	31	2.94	1.44	.53
F/7	0-5	25	2.28	1.67	.46
F/8	0-5	31	1.65	0.95	.30
M/6	0-5	24	2.38	1.31	.49
M/7	0-5	27	1.74	0.90	.33
M/8	0-5	25	2.12	1.39	.42
Entire Sample		163	2.18	1.35	.14

*Attitude toward reading

was measured by the Mikulecky Behavioral Reading Attitude Measure and recorded on a scale from 0 to 5, with 0 interpreted as least favorable attitude toward reading and 5 as most favorable. The mean values for this variable range from a low of 1.65 for Females/Grade 8 to a high of 2.94 for Females/Grade 6.

As a group, females had a higher mean (2.29) than males but the difference was not significant (see Table 7). When the mean values for grade levels were analyzed, the means became successively lower with the increase in grade level, with Grade 6 reporting a mean of 2.69, Grade 7 a mean of 2.00, and Grade 8 a mean of 1.86. The mean value for Grade 6 was significantly higher than that for Grade 7 or Grade 8, indicating that Grade 6 had a significantly more positive attitude toward reading than either Grade 7 or Grade 8. This was consistent with the findings from the Analysis of Variance (see Table 7) that grade level exerted a significant effect beyond the $p = .01$ level ($F = 5.55$). This increasingly negative attitude toward reading was also observed in females in successive grades, but not in males. Males/Grade 6 reported a higher mean score than did Males/Grade 7 or Males/Grade 8, but Males/Grade 8 had a higher mean score than did Males/Grade 7. These findings were consistent with the findings from the Analysis of Variance (Table 7) that the interaction effect for grade and sex was almost significant ($F = 2.85$).

The variability in reading attitude across the twelve groups revealed that Females/Grade 8 ($sd = .95$) and Males/Grade 7 ($sd = .90$) varied less than any other group. These were also the groups reporting the lowest mean scores of all groups on variable MBRAM. The groups having the largest standard deviations were Females/Grade 7 ($sd = 1.67$), Females ($sd = 1.45$), and Females/Grade 6 ($sd = 1.44$).

Pearson Correlation coefficients were computed for MBRAM with each of the other seven variables. Table 9 summarizes the results of this tabulation. MBRAM was found to correlate significantly at or beyond the $p = .01$ level with five of the seven variables. It correlated most highly with BKSRD ($r = .38$) and BKSOWN ($r = .29$). The only variables with which MBRAM did not correlate significantly were MAGA ($r = .01$) and SC ($r = .07$).

When the relationship between MBRAM and the other variables was analyzed for the entire sample (see Table 10), BKSRD, READTO, and NWSRD combined to produce the best regression equation by which to predict MBRAM. The F value of the regression equation ($F = 12.57$) was significant beyond the $p = .01$ level.

When the relationship between MBRAM and the other variables was analyzed for females (see Table 11), the best regression equation for MBRAM, using the forward stepwise technique, was the regression equation using two predictor

TABLE 9

PEARSON CORRELATION COEFFICIENTS FOR ENTIRE SAMPLE

Variable	Coefficients							
	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
MBRAM		*.22	*.29	-.01	*.38	*.22	*.21	.07
READTO			*.29	*.19	.09	*.18	*.22	*.25
BKSOWN				.02	*.40	*.24	*.26	.07
MAGA					-.01	.17	.16	.10
BKSRD						*.20	*.32	-.08
NWSRD							*.25	.15
RDACH								.03
SC								

*p < .01

n = 163

Legend: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 MAGA = number of magazines in the home monthly
 BKSRD = number of nonschool required books read in the previous year
 NWSRD = amount of newspaper read on daily basis
 RDACH = reading achievement
 SC = self-concept

TABLE 10

MBRAM (ATTITUDE TOWARD READING) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r^2
56.83	18.94	*12.57	.19

Regression Equation:

$$(.34 \times \text{BKSRD}) + (.17 \times \text{READTO}) + (.12 \times \text{NWSRD}) = \widetilde{\text{MBRAM}}$$

* $p \leq .01$ $n = 163$

TABLE 11

MBRAM (ATTITUDE TOWARD READING) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	59.31	29.66	*20.34	.33

Regression Equation:

$$(.53 \times \text{BKSRD}) + (.14 \times \text{READTO}) = \widetilde{\text{MBRAM}}$$

n = 87

M	10.10	5.5	* 3.95	.10
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Regression Equation:

$$(.22 \times \text{READTO}) + (.20 \times \text{NWSRD}) = \widetilde{\text{MBRAM}}$$

n = 76

*p $\leq$.01

variables, BKSRD and READTO. The equation had an F value of 20.34, significant at the .01 level. For males, two predictor variables again produced the best regression equation (see Table 11), but little variance was accounted for by this equation. These variables were READTO and NWSRD. Together they produced a regression equation with an F value of 3.39 and significant at the .01 level.

When MBRAM was analyzed for each grade (see Table 12), the following sets of variables were found to be the best predictors. For Grade 6, BKSRD and RDACH combined to produce a regression equation with an $F = 7.90$ and significant at the .01 level. For Grade 7, BKSRD and READTO combined to produce a significant F value of 16.55. RDACH and BKSOWN combined at the Grade 8 level to produce a regression equation with an F value of 16.47, $p \leq .01$.

All grade and sex combinations for the variable MBRAM were analyzed and are reported in Table 13. Of the six regression equations produced for this dependent variable, only one (Males/Grade 7) did not produce an F value significant at the .01 level.

For Females/Grade 6 (see Table 13), BKSRD combined with READTO produced a regression equation with an $F = 5.64$. Females/Grade 7 produced results indicating that BKSRD, READTO, and NWSRD combine to give the best regression equation for this group with an $F = 13.94$. For Females/

TABLE 12

MBRAM (ATTITUDE TOWARD READING) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6	24.75	12.38	* 7.90	.23

Regression Equation:

$$(.52 \times \text{BKSRD}) + (.12 \times \text{RDACH}) = \widetilde{\text{MBRAM}}$$

n = 55

7	37.09	18.55	*16.55	.40
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Regression Equation:

$$(.53 \times \text{BKSRD}) + (.63 \times \text{READTO}) = \widetilde{\text{MBRAM}}$$

n = 52

8	29.46	14.73	*16.47	.38
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Regression Equation:

$$(.37 \times \text{RDACH}) + (.35 \times \text{BKSOWN}) = \widetilde{\text{MBRAM}}$$

n = 56

*p < .01

TABLE 13

MBRAM (ATTITUDE TOWARD READING) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	17.76	8.88	* 5.64	.29
Regression Equation:				
$(.47 \times \text{BKSRD}) + (.32 \times \text{READTO}) = \widetilde{\text{MBRAM}}$				
n = 31				
F/7	44.63	14.88	*13.94	.67
Regression Equation				
$(.86 \times \text{BKSRD}) + (.60 \times \text{READTO}) + .40 \times \text{NWSRD} = \widetilde{\text{MBRAM}}$				
n = 25				
F/8	16.91	8.46	*23.24	.62
Regression Equation:				
$(.43 \times \text{BKSOWN}) + (.39 \times \text{BKSRD}) = \widetilde{\text{MBRAM}}$				
n = 31				
M/6	11.80	11.80	* 9.32	.30
Regression Equation:				
$(.55 \times \text{BKSRD}) = \widetilde{\text{MBRAM}}$				
n = 24				
M/7	1.74	1.74	**2.23	.08
Regression Equation:				
$(.29 \times \text{READTO}) = \widetilde{\text{MBRAM}}$				
n = 27				

TABLE 13 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	22.01	7.34	* 6.26	.47

Regression Equation:

$$(.63 \times \text{RDACH}) + (.29 \times \text{SC}) + (.26 \times \text{MAGA}) = \widetilde{\text{MBRAM}}$$

n = 25

*p [<] .01

**not significant at Step 1

Grade 8, BKSOWN and BKSRD combined to produce a regression equation with an F value of 23.24.

For Males/Grade 6 (see Table 13), BKSRD alone produced the best regression equation for MBRAM with a significant $F = 9.32$. No gain in significance was improved upon by adding any other variables. For Males/Grade 7, no variable or combination of variables was a significant predictor of MBRAM at the .01 level. For Males/Grade 8, RDACH, SC, and MAGA combined to produce the best regression equation by which to predict MBRAM with an $F = 6.26$.

A summary of the regression equations produced for the dependent variable MBRAM reveals that MBRAM could be predicted reasonably well for females in Grade 7 ($r^2 = .67$) and females in Grade 8 ($r^2 = .62$). In no other instances were 50% or more of the variance being accounted for. The variable BKSRD was common to both regression equations. For Females/Grade 7, the other variables were READTO and NWSRD. For Females/Grade 8, the other variable in the regression equation was BKSOWN. The null hypothesis was thus rejected.

It would appear that the number of nonschool required books read in the previous year is an important variable when seeking to predict reading attitude. This is particularly true for females as a group. The number of books owned (BKSOWN) also correlated significantly with MBRAM. Also of note are the facts that males had a less positive

attitude toward reading than did females, and that the attitude toward reading became successively lower with the increase in grade level when grade levels were investigated and when females were investigated by grade level.

V. HYPOTHESIS 2

The following null hypothesis was proposed: There is no degree of linear relationship between amount read to as a child (READTO) and some linear combination of the following variables, reading attitude (MBRAM), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well amount read to as a child, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable READTO is found in Table 14. Amount read to as a child was estimated by the subject and measured on a Likert-type scale from 1 to 5, with 1 interpreted as never read to and 5 as read to a great deal. The mean values of this variable range from a low of 3.26 for Males/Grade 7 to a high of 4.29 for Females/Grade 6.

TABLE 14
DESCRIPTIVE DATA FOR VARIABLE READTO* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	1-5	87	3.90	1.25	.42
Males	1-5	76	3.50	1.15	.26
Grade 6	1-5	55	3.95	1.25	.53
Grade 7	1-5	52	3.50	1.21	.49
Grade 8	1-5	56	3.68	1.16	.49
F/6	1-5	31	4.29	1.01	.77
F/7	1-5	25	3.76	1.23	.74
F/8	1-5	31	3.61	1.41	.65
M/6	1-5	24	3.50	1.41	.71
M/7	1-5	27	3.26	1.16	.63
M/8	1-5	25	3.76	0.78	.75
Entire Sample	1-5	163	3.71	1.22	.29

*amount read to as a child

As a group, females had a higher mean (3.90) than males (3.50) and the difference, though not significant, approached the .01 level of confidence ($r \leq .04$). When the mean values for grade levels were analyzed, the means varied from a high of 3.95 at Grade 6 to a low of 3.50 at Grade 7. Grade 8 reported a mean value of 3.68. None of these differences were significant. Females exhibited a successively lower mean value with each higher grade level. Males varied in value with the lowest mean assigned to Males/Grade 7 (3.26) and the highest to Males/Grade 8 (3.76). Males Grade 6 reported a mean score of 3.50.

The variability in amount read to as a child across the twelve groups revealed that Males/Grade 8 ($sd = .78$) varied less than any other group. The groups having the largest standard deviations were Females/Grade 8 ($sd = 1.41$) and Males/Grade 6 ($sd = 1.41$).

Pearson Correlation coefficients were computed for READTO with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. READTO was found to correlate significantly at the $p \leq .01$ level with six of the seven variables. It correlated most highly with BKSOWN ($r = .29$), MBRAM ($r = .22$), and RDACH ($r = .22$). The only variable with which READTO did not significantly correlate was BKSRD ($r = .09$).

When the relationship between READTO and the other variables was analyzed for the entire sample (see Table 15),

TABLE 15

READTO (AMOUNT READ TO AS A CHILD) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
39.70	13.23	*10.53	.17

Regression Equation:

$$(.27 \times \text{BKSOWN}) + (.22 \times \text{SC}) + (.16 \times \text{MAGA}) = \overline{\text{READTO}}$$

*p $\leq$.01

n = 163

BKSOWN, SC, and MAGA combined to produce the best regression equation by which to predict READTO. The F value of this regression equation ($F = 10.53$) was significant at the $p = .01$ level.

When the relationship between READTO and the other variables was analyzed for Females (see Table 16), the best regression equation for READTO using the forward stepwise technique was the equation using three predictor variables, BKSOWN, SC, and MAGA. This equation had an F value of 6.35, significant at the .01 level. No reasonable improvement in r^2 was made by adding further variables. For Males, three predictor variables again produced the best regression equation. These variables were RDACH, SC, and BKSOWN. Together they produced a regression equation with an F value of 6.90 and significant at the .01 level.

When READTO was analyzed for each grade (see Table 17), the following sets of variables were found to be the best predictors. For Grade 6, RDACH, SC, and MAGA combined to produce a regression equation with an F value equal to 8.14 and significant at the .01 level. For Grade 7, BKSORD, MBRAM, BKSOWN, and NWSRD combined to produce a significant F value of 8.64. MAGA and BKSOWN combined at the Grade 8 level to produce a regression equation with an F value of 16.47, $p \leq .01$.

All grade and sex combinations for the dependent variable READTO were analyzed and are reported in Table 18.

TABLE 16
 READTO (AMOUNT READ TO AS A CHILD) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	25.02	8.34	*6.35	.19

Regression Equation:

$$(.29 \times \text{BKSOWN}) + (.23 \times \text{SC}) + (.17 \times \text{MAGA}) = \widetilde{\text{READTO}}$$

n = 87

M	22.17	7.39	*6.90	.22
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Regression Equation:

$$(.29 \times \text{RDACH}) + (.27 \times \text{SC}) + (.20 \times \text{BKSOWN}) = \widetilde{\text{READTO}}$$

n = 76

*p $\leq$.01

TABLE 17
READTO (AMOUNT READ TO AS A CHILD) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6	27.47	9.16	*8.14	.32

Regression Equation:

$$(.43 \times \text{RDACH}) + (.27 \times \text{SC}) + (.20 \times \text{MAGA}) = \widetilde{\text{READTO}}$$

n = 55

7	7.94	.92	*8.64	.42
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Regression Equation:

$$(.01 \times \text{BKSRD}) + (.42 \times \text{MBRAM}) + (.01 \times \text{BKSOWN}) + (.42 \times \text{NWSRD}) = \widetilde{\text{READTO}}$$

n = 52

8	16.15	8.08	*7.37	.22
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Regression Equation:

$$(.33 \times \text{MAGA}) + (.32 \times \text{BKSOWN}) = \widetilde{\text{READTO}}$$

n = 56

*p [<] .01

TABLE 18

READTO (AMOUNT READ TO AS A CHILD) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	5.24	5.24	**6.04	.17

Regression Equation:

$$(.42 \times SC) = \widetilde{\text{READTO}}$$

n = 31

F/7	25.48	11.09	*11.49	.70
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Regression Equation:

$$(.41 \times \text{BKSOWN}) + (-.95 \times \text{BKSRD}) + (.74 \times \text{MBRAM}) + (.46 \times \text{NWSRD}) = \widetilde{\text{READTO}}$$

n = 25

F/8	8.70	8.70	**4.98	.15
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Regression Equation:

$$(.38 \times \text{MAGA}) = \widetilde{\text{READTO}}$$

n = 31

M/6	19.94	9.94	* 8.03	.43
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Regression Equation:

$$(.53 \times \text{RDACH}) + (.33 \times \text{MBRAM}) = \widetilde{\text{READTO}}$$

n = 24

M/7	17.55	5.85	* 7.63	.50
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Regression Equation:

$$(.49 \times SC) + (.38 \times \text{BKSOWN}) + (.33 \times \text{MBRAM}) = \widetilde{\text{READTO}}$$

n = 27

TABLE 18 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	4.23	4.23	* 9.43	.29

Regression Equation:

$$(.53 \times \text{NWSRD}) = \widetilde{\text{READTO}}$$

n = 25

*p $\leq$.01

Of the six regression equations produced for this variable, only two (Females/Grade 6 and Females/Grade 8 did not produce an F value significant at the .01 level. For Females/Grade 8, MAGA also produced the best regression equation with an $F = 4.98$, but not significant at the .01 level.

For Females/Grade 6 (see Table 18), SC alone produced the best regression equation with an $F = 6.04$. Although this was not significant at the .01 level, it was approaching significance ($p = .02$). Females/Grade 7 produced results indicating that BKS RD, MBRAM, BKSOWN, and NWS RD combine to give the best regression equation for this group with an $F = 11.49$ and accounting for 70% of the variance.

For Males/Grade 6 (see Table 18), RDACH combined with MBRAM to produce the best regression equation for READTO with a significant $F = 8.03$. For Males/Grade 7, SC, BKSOWN, and MBRAM combined to produce the best regression equation by which to predict READTO with a significant $F = 7.63$. Males/Grade 8 produced only one variable, NWS RD, as the best predictor of READTO for their group, with a significant $F = 9.43$. No gain in significance was improved upon by adding other variables.

A summary of the regression equations produced for the dependent variable READTO revealed that READTO can be predicted reasonably well for Males/Grade 7 ($r^2 = .50$) and

very well for Females/Grade 7 ($r^2 = .70$). In no other instances were 50% or more of the variance being accounted for. The variables BKSOWN and MBRAM were common to both regression equations. For Females/Grade 7, BKSRD and NWSRD were the other variables in the regression equation. For Males/Grade 7, the other variable was SC. The null hypothesis for variable READTO was thus rejected.

For the dependent variable READTO, BKSOWN appears to be the single, most important predictor variable. The Pearson Correlation coefficient (see Table 9, p. 106) revealed an $r = .29$. BKSOWN entered into seven of the twelve regression equations, entering two of them (Females and Entire Sample) first. The variable SC was also found to correlate significantly ($r = .25$) and was entered into six of the twelve regression equations.

VI. HYPOTHESIS 3

The following null hypothesis was proposed: There is no degree of linear relationship between number of books owned (BKSOWN) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate

whether or not a variable or set of variables would predict reasonably well the number of books owned, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable BKSOWN is found in Table 19. The number of books owned was estimated by each subject and varied from a low of 0 (no books owned) to a high of 400 books owned. The mean values for this variable range from a low of 30.19 for Females/Grade 8 to a high of 52.00 for Males/Grade 6.

As separate groups, Females and Males reported very similar means for the variable BKSOWN, with Females reporting a mean of 41.57 and Males a mean of 41.28. When the mean values for grade levels were analyzed, the means became successively lower with the increase in grade level, with Grade 6 reporting a mean of 50.24, Grade 7 a mean of 40.85, and Grade 8 a mean of 33.34. However, none of the differences were significant at the .01 level. This increasingly lower mean was also observed in females in successive grades but not in males. Males/Grade 8 reported a higher mean (37.24) than did Males/Grade 7 (35.48), but lower than Males/Grade 6 (52.00).

The variability in number of books owned across the twelve groups revealed that Males/Grade 7 ($sd = 32.46$) varied less than any other group. The groups having the largest

TABLE 19
DESCRIPTIVE DATA FOR VARIABLE BKSOWN* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	0-400	87	41.57	60.81	4.46
Males	0-300	76	41.28	51.32	4.73
Grade 6	2-400	55	50.24	71.79	6.77
Grade 7	0-250	52	40.85	45.77	5.67
Grade 8	0-232	56	33.34	47.19	4.46
F/6	2-400	31	48.87	73.66	8.77
F/7	0-250	25	46.64	56.96	9.33
F/8	0-232	31	30.19	48.69	5.42
M/6	2-300	24	52.00	70.83	10.61
M/7	1-100	27	35.48	32.46	6.82
M/8	1-100	25	37.24	45.96	7.45
Entire Sample	0-400	163	41.44	56.42	3.25

*number of books personally owned

standard deviations were Females/Grade 6 ($sd = 73.66$), Grade 6 ($sd = 71.79$), and Males/Grade 6 ($sd = 70.83$).

Pearson Correlation coefficients were computed for BKSOWN with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. BKSOWN was found to correlate significantly at the .01 level with five of the seven variables. It correlated most highly with BKSRD ($r = .40$), MBRAM ($r = .29$), and READTO ($r = .29$). The only variables with which BKSOWN did not significantly correlate were MAGA ($r = .02$) and SC ($r = .07$).

When the relationship between BKSOWN and the other variables was analyzed for the entire sample (see Table 20), the best regression equation for BKSOWN using the forward stepwise technique was the regression equation using only two predictor variables, BKSRD and READTO. This equation had an F value of 20.34, significant at the .01 level.

When the relationship between BKSOWN and the other variables was analyzed for Females (see Table 21), the best regression equation was one using the same two predictor variables, BKSRD and READTO. This equation had a significant F value of 23.06. For Males (see Table 21), the same two predictor variables again produced the best regression equation, with READTO entering the equation first and BKSRD second, to produce an equation with an $F = 4.92$, significant at the .01 level. However, little variance (.12) was accounted for by this equation.

TABLE 20

BKSOWN (NUMBER OF BOOKS OWNED) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
116,030.12	58,015.06	*23.23	.22

Regression Equation:

$$(.38 \times \text{BKSRD}) + (.26 \times \text{READTO}) = \text{BKSOWN}$$

$$*p \leq .01$$

$$n = 163$$

TABLE 21

BKSOWN (NUMBER OF BOOKS OWNED) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	112,739.58	56,369.79	*23.06	.35

Regression Equation:

$$(.51 \times \text{BKSRD}) + (.26 \times \text{READTO}) = \widetilde{\text{BKSOWN}}$$

n = 87

M	23,470.47	11,735.24	* 4.92	.12
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Regression Equation:

$$(.26 \times \text{READTO}) + (.22 \times \text{BKSRD}) = \widetilde{\text{BKSOWN}}$$

n = 76

$$*p \leq .01$$

When BKSOWN was analyzed for each grade (see Table 22), the following sets of variables were found to be the best predictors. At Grade 6, BKSRD and NWSRD combined to produce a regression equation with an $F = 6.99$ and significant at the .01 level. In Grade 7, READTO and BKSRD combined to produce a significant F value of 10.51. MBRAM, BKSRD, and READTO combined at Grade 8 to produce a regression equation with an F value of 14.36, $p \leq .01$.

All grade and sex combinations for the dependent variable BKSOWN were analyzed and are reported in Table 21. Of the six regression equations produced for this variable, all female/grade combinations were significant at the .01 level, but none of the male/grade combinations were significant.

For Females/Grade 6 (see Table 23), BKSRD alone produced the best regression equation with an $F = 14.86$. Females/Grade 7 produced results indicating that RDACH and READTO combined to give the best regression equation for this group with an $F = 6.09$. For Females/Grade 8, BKSRD and MBRAM combined to produce a regression equation with a significant F value of 23.24 and accounting for 73% of the variance.

A summary of the regression equations produced for the dependent variable BKSOWN reveals that BKSOWN could be predicted reasonably well for Females/Grade 8 ($r = .73$),

TABLE 22

BKSOWN (NUMBER OF BOOKS OWNED) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6	58,979.18	29,489.59	* 6.99	.21

Regression Equation:

$$(.37 \times \text{BKSRD}) + (.20 \times \text{NWSRD}) = \widetilde{\text{BKSOWN}}$$

n = 55

7	32,089.49	16,044.74	*10.51	.30
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Regression Equation:

$$(.40 \times \text{READTO}) + (.38 \times \text{BKSRD}) = \widetilde{\text{BKSOWN}}$$

n = 52

8	55,500.72	18,500.24	*14.36	.45
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Regression Equation:

$$(.44 \times \text{MBRAM}) + (.34 \times \text{BKSRD}) + (.27 \times \text{READTO}) = \widetilde{\text{BKSOWN}}$$

n = 56

*p $\leq$.01

TABLE 23

BKSOWN (NUMBER OF BOOKS OWNED) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	55,140.67	55,140.67	*14.86	.34

Regression Equation:

$$(.58 \times \text{BKSRD}) = \widetilde{\text{BKSOWN}}$$

n = 31

F/7	27,760.09	13,880.05	* 6.09	.36
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Regression Equation:

$$(.46 \times \text{RDACH}) + (.37 \times \text{READTO}) = \widetilde{\text{BKSOWN}}$$

n = 25

F/8	52,181.30	26,090.65	*38.57	.73
-----	-----------	-----------	--------	-----

Regression Equation:

$$(.60 \times \text{BKSRD}) + (.30 \times \text{MBRAM}) = \widetilde{\text{BKSOWN}}$$

n = 31

M/6	19,926.75	19,926.75	**4.59	.17
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Regression Equation:

$$(.42 \times \text{NWSRD}) = \widetilde{\text{BKSOWN}}$$

n = 24

M/7	6,394.69	6,394.69	**7.62	.23
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Regression Equation:

$$(.48 \times \text{MAGA}) = \widetilde{\text{BKSOWN}}$$

n = 27

TABLE 23 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	12,299.40	12,299.40	**7.37	.24

Regression Equation:

$$(.49 \times \text{RDACH}) = \widetilde{\text{BKSOWN}}$$

n = 25

$$*p \leq .01$$

**not significant at Step 1

thus the null hypothesis was rejected. This regression equation contained the variables BKS RD and MBRAM. In no other instances were 50% or more of the variance being accounted for.

For the dependent variable number of books owned, the number of nonschool required books read in the previous year appeared to be the single, most important predictor variable. The Pearson Correlation coefficients (see Table 9, p. 106) revealed an $r = .40$ between BKS RD and BKSOWN. BKS RD entered into eight of the twelve regression equations, entering five of them (Entire Sample, Females, Grade 6, Females/Grade 6, and Females/Grade 8) first.

VII. HYPOTHESIS 4

The following null hypothesis was proposed: There is no degree of linear relationship between number of magazines in the home on a monthly basis (MAGA) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of nonschool required books read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well the number of magazines in the home on a monthly basis, and (2) to investigate whether or

not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable MAGA is found in Table 24. Number of magazines in the home on a monthly basis was estimated by the subject and recorded with 0 (no magazines in the home on a monthly basis) being the lowest number estimated, and 50 being the highest number. The mean values for this variable range from a low of 4.56 for Females/Grade 7 and 4.58 for Females/Grade 6, to a high of 6.86 for Females/Grade 8.

As a group, Females had a higher mean (6.03) than Males (5.62), but the difference was not significant. When the mean values for grade levels were analyzed, the means became successively higher with the increase in grade level, with Grade 6 reporting a mean of 4.98, Grade 7 a mean of 5.02, and Grade 8 a mean of 7.45. However, none of these differences were significant at the .01 level. This increasingly higher mean was also observed in females in successive grades but not in males. Males/Grade 6 reported a higher mean score (5.50) than did Males/Grade 7 (5.44), but lower than the mean score of Males/Grade 8 at 5.92.

The variability in number of magazines in the home on a monthly basis across the twelve groups revealed that Females/Grade 6 (sd = 3.26) varied less than any other group. The groups having the largest standard deviations were Females/Grade 8 (sd = 10.35) and Grade 8 (sd = 8.52).

TABLE 24
DESCRIPTIVE DATA FOR VARIABLE MAGA* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	0-50	87	6.03	6.94	.65
Males	0-16	76	5.62	4.18	.64
Grade 6	0-15	55	4.98	3.34	.67
Grade 7	0-16	52	5.02	3.53	.70
Grade 8	0-50	56	7.45	8.52	1.00
F/6	0-15	31	4.58	3.26	.82
F/7	0-15	25	4.56	3.36	.91
F/8	0-50	31	8.68	10.35	1.56
M/6	0-15	24	5.50	3.44	1.12
M/7	0-16	27	5.44	3.70	1.05
M/8	1-20	25	5.92	5.31	1.18
Entire Sample	0-50	163	5.84	5.80	.46

*number of magazines in home on monthly basis

Pearson Correlation coefficients were computed for MAGA with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. MAGA was found to correlate significantly at the .01 level with only one of the other seven variables. It correlated significantly at the .01 level with READTO ($r = .19$).

When the relationship between MAGA and the other variables was analyzed for the entire sample (see Table 25), for females (see Table 26), and for males (see Table 26), no other variable was a significant predictor of MAGA at the .01 level.

When MAGA was analyzed for each grade (see Table 27), the following sets of variables were found to be the best predictors. For Grade 6, no variable or set of variables was found to be a good predictor of MAGA. For Grade 7, BKSOWN and NWSRD combined to produce a regression equation with a significant F value of 3.51. READTO and NWSRD combined at the Grade 8 level to produce a significant $F = 6.70$.

All grade and sex combinations for the dependent variable MAGA were analyzed and are reported in Table 28. Of the six regression equations produced for this variable, only two (Females/Grade 8 and Males/Grade 7) produced an F value significant at the .01 level.

For Females/Grade 8 (see Table 28), NWSRD and READTO combined to produce a regression equation with a significant

TABLE 25

MAGA (MAGAZINES IN HOME ON MONTHLY BASIS) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
199.39	199.39	**6.11	.04

Regression Equation:

$$(.19 \times \text{READTO}) = \widetilde{\text{MAGA}}$$

*p $\leq$.01

n = 163

TABLE 26
MAGA (MAGAZINES IN HOME ON MONTHLY BASIS) BY SEX

Sex	Sum of Squares	Mean Square		r^2
F	221.53	221.53	*4.81	.05
Regression Equation:				
$(.23 \times \text{NWSRD}) = \widetilde{\text{MAGA}}$				
n = 87				
M	50.20	50.20	*2.95	.04
Regression Equation:				
$(.20 \times \text{SC}) = \widetilde{\text{MAGA}}$				
n = 76				

*not significant at Step 1

TABLE 27

MAGA (MAGAZINES IN HOME ON MONTHLY BASIS) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6				
Regression Equation:				
Relationship nonexistent				
n = 55				
7	79.80	39.90	*3.51	.12
Regression Equation:				
$(.26 \times \text{BKSOWN}) + (.21 \times \text{NWSRD}) = \widetilde{\text{MAGA}}$				
n = 52				
8	805.11	402.56	*6.70	.20
Regression Equation:				
$(.32 \times \text{READTO}) + (.29 \times \text{NWSRD}) = \widetilde{\text{MAGA}}$				
n = 56				

*p [<] .01

TABLE 28

MAGA (MAGAZINES IN HOME ON MONTHLY BASIS) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	26.07	26.07	**2.58	.08

Regression Equation:

$$(.29 \times \text{MBRAM}) = \widetilde{\text{MAGA}}$$

n = 31

F/7	13.05	13.05	**1.17	.05
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Regression Equation:

$$(.22 \times \text{BKSOWN}) = \widetilde{\text{MAGA}}$$

n = 25

F/8	1,003.34	501.67	* 6.36	.31
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Regression Equation:

$$(.43 \times \text{NWSRD}) + (.23 \times \text{READTO}) = \widetilde{\text{MAGA}}$$

n = 31

M/6	29.06	14.53	**1.26	.11
-----	-------	-------	--------	-----

Regression Equation:

$$(.35 \times \text{SC}) + (.29 \times \text{READTO}) = \widetilde{\text{MAGA}}$$

n = 24

M/7	123.46	61.73	* 6.35	.35
-----	--------	-------	--------	-----

Regression Equation:

$$(.48 \times \text{BKSOWN}) + (.34 \times \text{NWSRD}) = \widetilde{\text{MAGA}}$$

n = 27

TABLE 28 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	82.81	41.41	**1.54	.12

Regression Equation:

$$(.29 \times \text{READTO}) + (.25 \times \text{NWSRD}) = \widetilde{\text{MAGA}}$$

n = 25

*p < .01

**not significant at Step 1

F value of 6.36. For Males/Grade 7, BKSOWN and NWSRD combined to produce the best regression equation with an $F = 6.35$ and significant at the .01 level.

A summary of the regression equations produced for the dependent variable MAGA reveals that the number of magazines in the home on a monthly basis cannot be predicted reasonably well for any group by any variable or combination of variables. The null hypothesis was thus not rejected. The Pearson Correlation coefficient for MAGA was significant at the .01 level with amount read to as a child ($r = .19$). This variable entered into five of the twelve regression equations, entering three of the equations in Step 1. However, the number of magazines in the home on a monthly basis was not found to be predictable by this or any set of variables, and the null hypothesis was not rejected.

VIII. HYPOTHESIS 5

The following null hypothesis was proposed: There is no degree of linear relationship between number of nonschool required books read in the previous year (BKSRD) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), amount of newspaper read on a daily basis (NWSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate

whether or not a variable or set of variables would predict reasonably well the number of nonschool required books read in the previous year, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable BKSRD is found in Table 29. The subjects estimated the number of books which they had read in the previous year other than those required by the school. The lowest number was 0 (no books read), and the highest number was 500. The mean values for the variable range from a low of 13.74 for Females/Grade 8, to a high of 54.71 for Females/Grade 6.

As a group, Females reported a higher mean (34.95) than Males (27.00), but the difference was not significant. When the mean values for grade were analyzed, the means became successively lower with the higher the grade level, with Grade 6 reporting a mean of 44.92, Grade 7 a mean of 24.92, and Grade 8 a mean of 23.68. When the sex/grade interaction was analyzed, females reported a lower mean with each successively higher grade level, but males did not. Males/Grade 6 had a mean of 32.29, while Males/Grade 7 reported a 13.96 mean and Males/Grade 8 reported a 36.00 mean. The sex/grade interaction approached the .01 level of significance (.08), but the difference was not significant at the .01 level.

TABLE 29
DESCRIPTIVE DATA FOR VARIABLE BKS RD* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	0-300	87	34.95	59.01	3.75
Males	1-500	76	27.00	62.35	3.10
Grade 6	0-200	55	44.93	63.58	6.10
Grade 7	0-250	52	24.92	45.50	3.46
Grade 8	0-500	56	23.68	67.98	3.17
F/6	0-300	31	54.71	74.71	9.82
F/7	0-250	25	36.76	62.35	7.35
F/8	2-100	31	13.74	20.46	2.57
M/6	1-200	24	32.29	43.74	6.59
M/7	0-50	27	13.96	14.60	2.68
M/8	0-500	25	36.00	98.90	7.20
Entire Sample	0-500	163	31.25	60.53	2.45

*number of nonschool required books read in previous year

The variability in number of nonschool required books read in the previous year across the twelve groups revealed that Males/Grade 7 (sd = 14.60) and Females/Grade 8 (sd = 20.46) varied less than any other groups. In addition, these same groups reported the lowest means. The groups having the largest standard deviations were Males/Grade 8 (sd = 98.90) and Females/Grade 6 (sd = 74.71).

Pearson Correlation coefficients were computed for BKSRD with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. BKSRD was found to correlate significantly at the $p \leq .01$ level with four of the seven variables. It correlated most highly with BKSOWN ($r = .40$), MBRAM ($r = .38$), and RDACH ($r = .32$). The variables with which BKSRD did not significantly correlate were MAGA ($r = -.01$), SC ($r = -.08$), and READTO ($r = .09$).

When the relationship between BKSRD and the other variables was analyzed for the entire sample (see Table 30), the best regression equation for BKSRD using the forward stepwise technique was the regression equation using BKSOWN, MBRAM, and RDACH as the predictor variables. This equation had an F value of 19.51, significant at .01.

When the relationship between BKSRD and the other variables was analyzed for Females (see Table 31). The best regression equation was one using MBRAM, BKSOWN, and RDACH. This equation had an F value of 25.60, significant at the

TABLE 30

BKSRD (NUMBER OF BOOKS READ LAST YEAR) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
159,713.48	53,237.83	*19.51	.26

Regression Equation:

$$(.27 \times \text{BKSOWN}) + (.26 \times \text{MBRAM}) + (.19 \times \text{RDACH}) = \widetilde{\text{BKSRD}}$$

$$*p \leq .01$$

$$n = 163$$

TABLE 31

BKSRD (NUMBER OF BOOKS READ LAST YEAR) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	143,906.54	47,968.85	*25.60	.48

Regression Equation:

$$(.39 \times \text{MBRAM}) + (.30 \times \text{BKSOWN}) + (.25 \times \text{RDACH}) = \widetilde{\text{BKSRD}}$$

n = 87

M	15,667.69	15,667.69	**4.20	.05
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Regression Equation:

$$(.23 \times \text{BKSOWN}) = \widetilde{\text{BKSRD}}$$

n = 76

*p $\leq$.01

**not significant at Step 1

.01 level. For the group Males, no variable was a significant predictor of BKS RD at the .01 level.

When BKS RD was analyzed for each grade (see Table 32), the following sets of variables were found to be the best predictors and were all significant at the .01 level. For Grade 6, MBRAM, RDACH, and BKSOWN combined to produce a significant F value of 13.60. For Grade 7, MBRAM, BKSOWN, NWSRD, RDACH, and READTO combined to produce a significant F value of 12.41 and accounted for 57% of the variance. BKSOWN and READTO combined at Grade 8 to produce a regression equation with an F value of 5.57, but accounted for little of the variance (.17).

All grade and sex combinations for the dependent variable BKS RD were analyzed and are reported in Table 33. Of the six regression equations produced for this variable, all but two (Males/Grade 7 and Males/Grade 8) were significant at the .01 level.

For Females/Grade 6 (see Table 33), BKSOWN, RDACH, MBRAM, and NWSRD combined to produce a regression equation with $F = 11.42$ and accounting for 64% of the variance. Females/Grade 7 produced results indicating that READTO, MBRAM, BKSOWN, NWSRD, and RDACH combined to produce a regression equation with an F value of 27.45 and accounting for 90% of the variance. For Females/Grade 8, BKSOWN and MBRAM combined to produce a regression equation with an $F = 37.39$ and accounting for 73% of the variance.

TABLE 32

BKSRD (NUMBER OF BOOKS READ LAST YEAR) BY GRADE

Grade	Sum of Squares	Mean Square	F	r^2
6	97,006.78	32,335.59	*13.60	.44

Regression Equation:

$$(.39 \times \text{MBRAM}) + (.32 \times \text{RDACH}) + (.28 \times \text{BKSOWN}) = \widetilde{\text{BKSRD}}$$

n = 55

7	60,632.83	12,126.57	*12.41	.57
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Regression Equation:

$$(.48 \times \text{MBRAM}) + (.29 \times \text{BKSOWN}) + (.23 \times \text{NWSRD}) + (.25 \times \text{RDACH}) +$$

$$(-.38 \times \text{READTO}) = \widetilde{\text{BKSRD}}$$

n = 52

8	44,144.25	22,072.12	* 5.57	.17
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Regression Equation:

$$(.44 \times \text{BKSOWN}) + (.16 \times \text{READTO}) = \widetilde{\text{BKSRD}}$$

n = 56

*p $\leq$.01

TABLE 33

BKSRD (NUMBER OF BOOKS READ LAST YEAR) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	106,736.15	26,684.04	*11.42	.64

Regression Equation:

$$(.30 \times \text{BKSOWN}) + (.48 \times \text{RDACH}) + (.27 \times \text{MBRAM}) + (.27 \times \text{NWSRD}) = \widetilde{\text{BKSRD}}$$

n = 31

F/7	84,101.73	14,016.95	*27.45	.90
-----	-----------	-----------	--------	-----

Regression Equation:

$$(.50 \times \text{READTO}) + (.50 \times \text{MBRAM}) + (.22 \times \text{BKSOWN}) + (.39 \times \text{NWSRD}) + (.24 \times \text{RDACH}) + (.27 \times \text{SC}) = \widetilde{\text{BKSRD}}$$

n = 25

F/8	9,135.44	4,567.72	*37.39	.73
-----	----------	----------	--------	-----

Regression Equation:

$$(.63 \times \text{BKSOWN}) + (.28 \times \text{MBRAM}) = \widetilde{\text{BKSRD}}$$

n = 31

M/6	13,096.28	13,096.28	* 9.32	.30
-----	-----------	-----------	--------	-----

Regression Equation:

$$(.55 \times \text{MBRAM}) = \widetilde{\text{BKSRD}}$$

n = 24

M/7	512.24	512.24	**2.55	.09
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Regression Equation:

$$(.30 \times \text{BKSOWN}) = \widetilde{\text{BKSRD}}$$

n = 27

TABLE 33 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	33,400.52	33,400.52	**3.81	.14

Regression Equation:

$$(.38 \times \text{BKSOWN}) = \widetilde{\text{BKSRD}}$$

n = 25

*p $\leq$.01

**not significant at Step 1

For Males/Grade 6 (see Table 33), MBRAM alone produced the best regression equation for BKS RD with a significant $F = 9.32$. However, no variable was a significant predictor of BKS RD at the .01 level, for Males/Grade 7 or Males/Grade 8.

A summary of the regression equations produced for the dependent variable BKS RD reveals that the number of non-school required books read in the previous year could be predicted reasonably well for Grade 7 ($r^2 = .57$), Females/Grade 6 ($r^2 = .64$), Females/Grade 7 ($r^2 = .90$), and Females/Grade 8 ($r^2 = .73$). The null hypothesis was thus rejected. In no other instances were 50% or more of the variance being accounted for. The variables BKSOWN and MBRAM were common to all four equations. For Grade 7, the other variables were NWSRD, RDACH, and READTO. For Females/Grade 6, the other variables were RDACH and NWSRD. For Females/Grade 7, the other variables were READTO, NWSRD, and RDACH.

It would appear that the number of books owned (BKSOWN) and the reading attitude (MBRAM) have a greater influence on the number of books read in the previous year than any other variables. This is particularly true for females as a group, as well as for females at each grade level. These findings are consistent with the Pearson Correlation coefficients described in Table 9 (p. 106).

IX. HYPOTHESIS 6

The following null hypothesis was proposed: There is no degree of linear relationship between amount of newspaper read on a daily basis (NWSRD) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), reading achievement (RDACH), and self-concept (SC). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well amount of newspaper read on a daily basis, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable NWSRD is found in Table 34. Amount of newspaper read on a daily basis was estimated by the subject and measured on a Likert-type scale from 1 to 5, with 1 interpreted as no amount of newspaper read on a daily basis and 5 as the entire newspaper read. The mean values for this variable range from a low of 2.15 for Males/Grade 7, to a high of 2.68 for Females/Grade 6.

As a group, Females had a higher mean (2.47) than Males (2.28), but the difference was not significant. When the mean values for grade levels were analyzed, the means varied

TABLE 34
DESCRIPTIVE DATA FOR VARIABLE NWSRD* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	1-5	87	2.47	1.05	.26
Males	1-5	76	2.28	0.97	.26
Grade 6	1-5	55	2.53	1.12	.34
Grade 7	1-5	52	2.25	0.84	.31
Grade 8	1-5	56	2.36	1.07	.32
F/6	1-5	31	2.68	1.22	.48
F/7	1-5	25	2.36	0.76	.47
F/8	1-5	31	2.35	1.08	.42
M/6	1-5	24	2.33	0.96	.48
M/7	1-5	27	2.15	0.91	.41
M/8	1-5	25	2.36	1.08	.47
Entire Sample	1-5	163	2.38	1.02	.19

*amount of newspaper read daily

from a low of 2.25 for Grade 7, to 2.36 for Grade 8, to a high of 2.53 for Grade 6; however, the differences were not significant. When sex/grade interaction was analyzed, the means ranged from a low of 2.15 for Males/Grade 7, to a high of 2.86 for Females/Grade 6.

The variability in amount of newspapers read on a daily basis across the twelve groups revealed that Females/Grade 7 ($sd = .76$) varied less than any other group. The group having the largest standard deviation was Females/Grade 6 ($sd = 1.22$).

Pearson Correlation coefficients were computed for NWSRD with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. NWSRD was found to correlate significantly at the $p \leq .01$ level with five of the seven variables. It correlated most highly with RDACH ($r = .26$). The only variables with which NWSRD did not significantly correlate were MAGA ($r = .17$) and SC ($r = .15$).

When the relationship between NWSRD and the other variables was analyzed for the entire sample (see Table 35), the best regression equation for NWSRD using the forward stepwise technique was the regression equation using only two predictor variables, RDACH and BKSOWN. The F value of this regression ($F = 8.96$) was significant at the .01 level; however, this equation accounted for little of the variance (.10).

TABLE 35

NWSRD (NEWSPAPER READ DAILY) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
16.96	8.48	*8.96	.10

Regression Equation:

$$(.21 \times \text{RDACH}) + (.19 \times \text{BKSOWN}) = \widetilde{\text{NWSRD}}$$

$$*p \leq .01$$

$$n = 163$$

When the relationship between NWSRD and the other variables was analyzed for Females (see Table 36), the best regression equation was the one using three predictor variables, BKS RD, MAGA, and SC. This equation had an F value of 7.87, significant at the .01 level. For the Males, two predictor variables produced the best regression equation (see Table 36), but little variance (.13) was accounted for by this equation. These variables were RDACH and SC. Together they produced a regression equation with an F value of 5.53, and significant at the .01 level.

When NWSRD was analyzed for each grade (see Table 37), the following sets of variables were found to be the best predictors. For Grade 6, no variable was a significant predictor of NWSRD. For Grade 7, BKS RD and READTO combined to produce a significant F value of 5.43. RDACH and MAGA combined to produce a regression equation with an F value of 7.45, significant at the .01 level.

All grade and sex combinations for the dependent variable NWSRD were analyzed and are reported in Table 38. Of the six regression equations produced for this variable, all but two (Females/Grade 6 and Males/Grade 7) produced an F value significant at the .01 level.

For Females/Grade 6 (see Table 38), no variable or combination of variables was a significant predictor of NWSRD at the .01 level. Females/Grade 7 produced results

TABLE 36

NWSRD (NEWSPAPER READ DAILY) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	21.19	7.06	*7.87	.22
Regression Equation:				
$(.39 \times \text{BKSRD}) + (.22 \times \text{MAGA}) + (.16 \times \text{SC}) = \widetilde{\text{NWSRD}}$				
n = 87				
M	9.36	4.68	*5.53	.13
Regression Equation:				
$(.32 \times \text{RDACH}) + (.18 \times \text{SC}) = \widetilde{\text{NWSRD}}$				
n = 76				

*p [<] .01

TABLE 37
NWSRD (NEWSPAPER READ DAILY) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6	5.91	5.91	**5.07	.09
Regression Equation:				
$(.29 \times \text{BKSOWN}) = \widetilde{\text{NWSRD}}$				
n = 55				
7	6.48	3.24	*5.43	.18
Regression Equation:				
$(.34 \times \text{BKSRD}) + (.27 \times \text{READTO}) = \widetilde{\text{NWSRD}}$				
n = 52				
8	13.80	6.90	*7.45	.22
Regression Equation:				
$(.34 \times \text{RDACH}) + (.29 \times \text{MAGA}) = \widetilde{\text{NWSRD}}$				
n = 56				

*p $\leq$.01

**not significant at Step 1

indicating that READTO, MBRAM, BKS RD, and SC combined to give the best regression equation for this group with a significant of 4.44. For Females/Grade 8, MAGA and BKSOWN combined to produce a regression equation with an F value of 11.87.

For Males/Grade 6 (see Table 38), RDACH and BKSOWN combined to produce the best regression equation for NWSRD, with a significant F of 6.44. For Males Grade 8, READTO and MBRAM combined to produce the best regression equation by which to predict NWSRD with an $F = 6.40$.

A summary of the regression equations produced for the dependent variable NWSRD reveals that the amount of newspaper read on a daily basis could not be predicted reasonably well for any group. In no instance were 50% or more of the variance being accounted for. The Pearson Correlation coefficient had indicated that NWSRD correlated most highly with the variable reading achievement ($r = .26$). Reading achievement was entered into four of the twelve regression equations and entered each of these in Step 1. Reading achievement (RDACH) was thus the only single variable which appeared to be important to predicting NWSRD. However, no variable or combination of variables was a good predictor of NWSRD, and the null hypothesis was not rejected.

TABLE 38

NWSRD (NEWSPAPER READ DAILY) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	6.20	6.20	**4.66	.14
Regression Equation:				
$(.37 \times \text{BKSRD}) = \widetilde{\text{NWSRD}}$				
n = 31				
F/7	6.47	1.61	* 4.44	.47
Regression Equation:				
$(.61 \times \text{READTO}) + (-.62 \times \text{MBRAM}) + (.88 \times \text{BKSRD}) + (.05 \times \text{SC}) = \widetilde{\text{NWSRD}}$				
n = 25				
F/8	16.10	8.05	*11.87	.46
Regression Equation:				
$(.46 \times \text{MAGA}) + (.44 \times \text{BKSOWN}) = \widetilde{\text{NWSRD}}$				
n = .31				
M/6	7.87	3.94	* 6.14	.37
Regression Equation:				
$(.45 \times \text{RDACH}) + (.33 \times \text{BKSOWN}) = \widetilde{\text{NWSRD}}$				
n = 24				
M/7	2.39	2.39	**3.15	.11
Regression Equation:				
$(.33 \times \text{MAGA}) = \widetilde{\text{NWSRD}}$				
n = 27				

TABLE 38 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	10.21	5.10	* 6.40	.37

Regression Equation:

$$(.53 \times \text{READTO}) + (.28 \times \text{MBRAM}) = \widetilde{\text{NWSRD}}$$

n = 25

*p $\leq$.01

**not significant at Step 1

X. HYPOTHESIS 7

The following null hypothesis was proposed: There is no degree of linear relationship between reading achievement (RDACH) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), and self-concept (SC). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well reading achievement, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable RDACH is found in Table 39. Reading achievement was measured by the reading section of the Stanford Achievement Test. These tests were machine-scored and then the raw score was converted to a grade level score by the computer. The scores varied from a low of 3.0 (third grade and no months), to a high of 12.8 (twelfth grade and eight months). The mean values for this variable range from a low of 6.96 for Males/Grade 7, to a high of 9.91 for Males/Grade 8.

As a group, Females had a higher mean (8.23) than Males (8.02), but the difference was not significant. When the

TABLE 39
DESCRIPTIVE DATA FOR VARIABLE RDACH* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	3.0-12.8	87	8.23	2.56	.88
Males	3.0-12.8	76	8.02	2.86	.92
Grade 6	3.0-10.5	55	7.66	2.37	1.03
Grade 7	3.0-12.8	52	7.15	2.70	.99
Grade 8	4.8-12.8	56	9.51	2.47	1.27
F/6	4.3-10.5	31	7.98	2.17	1.43
F/7	3.0-12.8	25	7.35	2.78	1.47
F/8	4.8-12.8	31	9.19	2.48	1.65
M/6	3.0-10.5	24	7.24	2.58	1.48
M/7	3.0-12.8	27	6.96	2.66	1.34
M/8	4.9-12.8	25	9.91	2.44	1.98
Entire Sample	3.0-12.8	163	8.13	2.70	.64

*reading achievement

mean values for grade levels were analyzed, the lowest mean was 7.15 at Grade 7, and the highest mean was 9.51 for Grade 8. Grade 6 reported a mean of 7.66. The mean value for Grade 8 was significantly higher than that for Grade 6 and Grade 7. This was consistent with the findings from the Analysis of Variance (see Table 7, pp. 99-100) that grade level exerted a significant effect beyond the $p = .01$ level ($F = 13.86$). This same pattern of lowest mean appearing in Grade 7 followed by Grade 6 then Grade 8 was also observed in females and males at these grade levels. However, the difference in the sex/grade interaction was not significant.

The variability in reading achievement across the twelve groups revealed that Females/Grade 6 ($sd = 2.17$) varied less than any other group. The groups having the largest standard deviation were Males ($sd = 2.86$) and Females/Grade 7 ($sd = 2.78$).

Pearson Correlation coefficients were computed for RDACH with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. RDACH was found to correlate significantly at the $p \leq .01$ level with five of the seven variables. It correlated most highly with BKS RD ($r = .32$), BKS OWN ($r = .26$), and NWS RD ($r = .26$). The only variables with which RDACH did not significantly correlate were MAGA ($r = .16$) and SC ($r = .03$).

When the relationship between RDACH and the other variables was analyzed for the entire sample (see Table

40), the best regression equation for RDACH using the forward stepwise technique was one using BKSRD, NWSRD, and READTO. The F value of the regression equation ($F = 10.87$) was significant at the $p = .01$ level.

When the relationship between RDACH and the other variables was analyzed for Females (see Table 41), the best regression equation was the one using only two predictor variables, BKSRD and MAGA. This equation had an F value of 11.49, significant at the .01 level. For Males, READTO, NWSRD, and BKSRD combined to produce the best regression equation with an F value of 7.25, and significant at the .01 level.

When RDACH was analyzed for each grade (see Table 42), the following sets of variables were found to be the best predictors. For Grade 6, READTO and BKSRD combined to produce a regression equation with an $F = 13.62$, significant at the .01 level. For Grade 7, BKSRD and BKSOWN combined to produce a significant F value of 9.60. MBRAM, NWSRD, and BKSRD combined at Grade 8 to produce a regression equation with an F value of 10.19, significant at the .01 level.

All grade and sex combinations for the dependent variable RDACH were analyzed and are reported in Table 43. Of the six regression equations produced for this variable, all but one (Males/Grade 7) produced an F value significant at the .01 level.

TABLE 40
RDACH (READING ACHIEVEMENT) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r^2
200.60	66.87	*10.87	.17

Regression Equation:

$$(.27 \times \text{BKSRD}) + (.17 \times \text{NWSRD}) + (.17 \times \text{READTO}) = \widetilde{\text{RDACH}}$$

*p $\leq$.01

n = 163

TABLE 41

RDACH (READING ACHIEVEMENT) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	120.67	60.33	*11.49	.21

Regression Equation:

$$(.42 \times \text{BKSRD}) + (.20 \times \text{MAGA}) = \widetilde{\text{RDACH}}$$

n = 87

M	142.78	47.60	* 7.25	.23
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Regression Equation:

$$(.29 \times \text{READTO}) + (.29 \times \text{NWSRD}) + (.21 \times \text{BKSRD}) = \widetilde{\text{RDACH}}$$

n = 76

*p [<] .01

TABLE 42
RDACH (READING ACHIEVEMENT) BY GRADE

Grade	Sum of Squares	Mean Square	F	r^2
6	104.00	52.00	*13.62	.34

Regression Equation:

$$(.40 \times \text{READTO}) + (.35 \times \text{BKSRD}) = \widetilde{\text{RDACH}}$$

$n = 55$

7	104.78	52.39	* 9.60	.28
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Regression Equation:

$$(.45 \times \text{BKSRD}) + (.16 \times \text{BKSOWN}) = \widetilde{\text{RDACH}}$$

$n = 52$

8	124.06	41.35	*10.19	.37
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Regression Equation:

$$(.44 \times \text{MBRAM}) + (.23 \times \text{NWSRD}) + (.19 \times \text{BKSRD}) = \widetilde{\text{RDACH}}$$

$n = 56$

* $p \leq .01$

TABLE 43

RDACH (READING ACHIEVEMENT) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r ²
F/6	68.56	22.85	* 8.46	.48
Regression Equation:				
$(.65 \times \text{BKSRD}) + (.33 \times \text{SC}) + (.28 \times \text{NWSRD}) = \widetilde{\text{RDACH}}$				
n = 31				
F/7	99.20	49.60	*12.64	.53
Regression Equation:				
$(.61 \times \text{BKSRD}) + (.24 \times \text{BKSOWN}) = \widetilde{\text{RDACH}}$				
n = 25				
F/8	61.82	30.91	* 7.03	.33
Regression Equation:				
$(.37 \times \text{NWSRD}) + (.36 \times \text{MBRAM}) = \widetilde{\text{RDACH}}$				
n = 31				
M/6	69.32	34.66	* 8.63	.45
Regression Equation:				
$(.46 \times \text{READTO}) + (.37 \times \text{NWSRD}) = \widetilde{\text{RDACH}}$				
n = 24				
M/7	9.89	9.89	**1.41	.05
Regression Equation:				
$(.23 \times \text{NWSRD}) = \widetilde{\text{RDACH}}$				
n = 27				

TABLE 43 (continued)

Sex/Grade	Sum of Squares	Mean Square		r^2
M/8	64.88	32.44	* 9.12	.45

Regression Equation:

$$(.49 \times \text{MBRAM}) + (.33 \times \text{BKSOWN}) = \widetilde{\text{RDACH}}$$

n = 25

*p $\leq$.01

**not significant at Step 1

For Females/Grade 6 (see Table 43), BKSRD, SC, and NWSRD combined to produce a regression equation with a significant $F = 8.46$. Females/Grade 7 produced results indicating that BKSRD and BKSOWN combine to give the best regression equation for this group, with an $F = 12.64$. For Females/Grade 8, NWSRD and MBRAM combined to produce a regression equation with a significant F value of 7.03.

For Males/Grade 6 (see Table 43), READTO and NWSRD combined to produce the best regression equation for RDACH, with a significant $F = 8.63$. For Males/Grade 8, MBRAM and BKSOWN combined to produce the best regression equation by which to predict RDACH, with a significant F value of 9.12.

A summary of the regression equations produced for the dependent variable RDACH reveals that reading achievement could be predicted reasonably well for Females/Grade 7 ($r^2 = .53$); thus the null hypothesis was rejected. In no other instances were 50% or more of the variance being accounted for. The variable BKSRD was entered into this equation in Step 1. BKSRD also entered into four of the other eleven equations in Step 1 and was entered at another step in three others. BKSRD was thus entered into eight of the twelve regression equations for the variable RDACH, and obtained a Pearson Correlation coefficient of .32. It appears that the number of books read in the previous year (BKSRD) is the single most important predictor of reading achievement.

XI. HYPOTHESIS 8

The following null hypothesis was proposed: There is no degree of linear relationship between self-concept (SC) and some linear combination of the following variables, reading attitude (MBRAM), amount read to as a child (READTO), number of books owned (BKSOWN), number of magazines in the home on a monthly basis (MAGA), number of nonschool required books read in the previous year (BKSRD), amount of newspaper read on a daily basis (NWSRD), and reading achievement (RDACH). The author's intent was two-fold: (1) to investigate whether or not a variable or set of variables would predict reasonably well self-concept, and (2) to investigate whether or not these predictions varied according to sex, grade, or sex and grade interaction.

A summary of the descriptive data for the dependent variable SC is found in Table 44. Self-concept was measured by the total positive score on the Tennessee Self Concept Scale. These scores range from a low of 241 to a high of 389, with the lower scores interpreted as least positive self-concept and the higher scores as most positive self-concept. The mean values for this variable range from a low of 304.03 for Females/Grade 8, to a high of 322.83 for Males/Grade 6.

As a group, Males had a higher mean (316.67) than Females (310.87), but the difference was not significant.

TABLE 44
DESCRIPTIVE DATA FOR VARIABLE SC* BY GROUP

Group	Minimum/ Maximum	N	Mean	Standard Deviation	Standard Error
Females	247-389	87	310.87	29.50	33.32
Males	241-384	76	316.67	30.94	36.32
Grade 6	266-384	55	317.36	29.51	42.77
Grade 7	247-389	52	317.62	30.96	44.11
Grade 8	241-377	56	306.11	29.34	40.92
F/6	261-374	31	313.13	26.39	56.22
F/7	247-389	25	316.56	35.61	63.31
F/8	256-360	31	304.03	26.53	54.58
M/6	273-384	24	322.83	32.88	65.88
M/7	261-356	27	318.59	26.60	61.27
M/8	241-377	25	307.68	32.88	61.74
Entire Sample	241-389	163	313.58	30.23	24.56

*self-concept

When the mean values for grade levels were analyzed, the means became successively lower with each higher grade level, with Grade 6 reporting a mean of 317.36, Grade 7 a mean of 317.62, and Grade 8 a mean of 306.11. These differences approached but did not reach significance at the .01 level. When sex/grade interaction was analyzed, the means varied from a high of 322.83 for Males/Grade 6, to a low of 308.68 for Males/Grade 8.

The variability in self-concept across the twelve groups revealed that Females/Grade 6 ($sd = 26.39$), Females/Grade 8 ($sd = 26.53$), and Males/Grade 7 ($sd = 26.20$) varied less than any other groups. The group having the largest standard deviation was Females/Grade 7 ($sd = 35.61$).

Pearson Correlation coefficients were computed for SC with each of the other seven variables. Table 9 (p. 106) summarizes the results of this tabulation. SC was found to correlate significantly at the .01 level with only one of the seven variables. It correlated significantly with variable READTO ($r = .25$).

When the relationship between SC and the other variables was analyzed for the entire sample (see Table 45), the best regression equation for SC using the forward stepwise technique was the regression equation using READTO and BKSRD as the predictor variables. This equation had an F value of 6.47, significant at the .01 level, but accounted for very little of the variance (.07).

TABLE 45
SC (SELF-CONCEPT) FOR ENTIRE SAMPLE

Sum of Squares	Mean Square	F	r ²
11,083.76	5,541.88	*6.47	.07

Regression Equation:

$$(.26 \times \text{READTO}) + (.10 \times \text{BKSRD}) = \overline{\text{SC}}$$

*p [<] .01

n = 163

When the relationship between SC and the other variables was analyzed for Females (see Table 46), the best regression equation contained only one predictor variable, READTO. This equation was significant at the .01 level with an F value of 6.56, but accounted for only 7% of the variance. For Males, READTO again was the only predictor variable. This equation was significant at the .01 level, with an F value of 6.50, and accounted for 8% of the variance.

When SC was analyzed for each grade (see Table 47), the following sets of variables were found to be the best predictors. For Grade 6, READTO provided the best regression equation with an F value of 8.30, and significant at the .01 level. For Grade 7, READTO and BKSRD combined to produce a significant F value of 5.16. No variable was a significant predictor of SC at the .01 level for Grade 8.

All grade and sex combinations were analyzed and are reported in Table 48. Only one of the regression equations (Males/Grade 7) produced an F value significant at the .01 level. For Males/Grade 7, READTO alone produced a regression equation with a significant F value of 8.59, and accounting for 26% of the variance.

A summary of the regression equations provided for the dependent variable SC reveals that SC could not be predicted reasonably well for any group. In no instances were 50% or more of the variance being accounted for. The variable READTO

TABLE 46
SC (SELF-CONCEPT) BY SEX

Sex	Sum of Squares	Mean Square	F	r ²
F	5,361.94	5,361.94	*6.56	.07

Regression Equation:

$$(6.32 \times \text{READTO}) = \widetilde{\text{SC}}$$

n = 87

M	5,796.02	5,796.02	*6.50	.08
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Regression Equation:

$$(.28 \times \text{READTO}) = \widetilde{\text{SC}}$$

n = 76

*p [<] .01

TABLE 47
SC (SELF-CONCEPT) BY GRADE

Grade	Sum of Squares	Mean Square	F	r ²
6	6,369.42	6,369.42	*8.30	.13

Regression Equation:

$$(.37 \times \text{READTO}) = \widetilde{\text{SC}}$$

n = 55

7	8,506.95	4,253.47	*5.16	.17
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Regression Equation:

$$(.30 \times \text{READTO}) + (.28 \times \text{BKSRD}) = \widetilde{\text{SC}}$$

n = 52

8	2,764.52	2,764.52	**3.35	.06
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Regression Equation:

$$(.24 \times \text{NWSRD}) = \widetilde{\text{SC}}$$

n = 56

*p < .01

**not significant at Step 1

TABLE 48
SC (SELF-CONCEPT) BY SEX AND GRADE

Sex/Grade	Sum of Squares	Mean Square	F	r^2
F/6	3,602.00	3,602.00	**6.04	.17
Regression Equation:				
$(.42 \times \text{READTO}) = \widetilde{\text{SC}}$				
n = 31				
F/7	4,470.27	4,470.27	**3.96	.15
Regression Equation:				
$(.38 \times \text{BKSRD}) = \widetilde{\text{SC}}$				
n = 25				
F/8	4,575.00	1,525.00	**2.49	.22
Regression Equation:				
$(.43 \times \text{NWSRD}) + (.52 \times \text{MBRAM}) + (.56 \times \text{BKSRD}) = \widetilde{\text{SC}}$				
n = 31				
M/6	5,610.09	5,610.09	**6.41	.23
Regression Equation:				
$(.48 \times \text{READTO}) = \widetilde{\text{SC}}$				
n = 24				
M/7	4,704.49	4,704.49	* 8.59	.26
Regression Equation:				
$(.51 \times \text{READTO}) = \widetilde{\text{SC}}$				
n = 27				

TABLE 48 (continued)

Sex/Grade	Sum of Squares	Mean Square	F	r ²
M/8	1,745.26	1,745.26	**1.66	.07

Regression Equation:

$$(.26 \times \text{BKSRD}) = \widetilde{\text{SC}}$$

n = 25

*p [<] .01

**not significant at Step 1

was entered in Step 1 in eight of the twelve equations and appears to be the variable most important to the prediction of self-concept. READTO was also the one variable which correlated significantly with SC (see Table 9, p. 106). However, no variable was a good predictor of SC, and the null hypothesis was not rejected.

XI. SUMMARY

In reviewing the descriptive data for each of the eight dependent variables, a number of similarities were revealed. In seven of the eight variables, females had a higher mean score than did males. The one exception was the dependent variable self-concept (SC), where males obtained a higher mean score than did females, although the difference was not significant.

In four of the eight dependent variables, the mean scores became successively lower with each higher grade level. These four variables are reading attitude (MBRAM), number of books owned (BKSOWN), number of nonschool required books read in the previous year (BKSRD), and self-concept (SC). In all but SC, females but not males also reported a successively lower mean with increase in grade level. In two other variables, amount read to as a child (READTO) and amount of newspaper read on a daily basis (NWSRD), the means varied with the high mean reported in Grade 6 and the low

mean reported in Grade 7. However, in both of these variables females, but not males, reported successively lower means with the increase in grade level, as in the first four variables mentioned. Only in variable, number of magazines in the home monthly (MAGA), did the means become higher with each successively higher grade level. This trend was also repeated in females, but not in males, for this variable.

In reviewing the regression equations produced for the eight dependent variables, the null hypotheses concerning five of the eight were rejected (Table 49). However, since no variable or combination of variables was found to be a good predictor of number of magazines in the home on a monthly basis (MAGA), amount of newspaper read on a daily basis (NWSRD), or self-concept (SC), the null hypotheses concerning these dependent variables were not rejected.

For the dependent variable reading attitude (MBRAM), two regression equations were found which accounted for more than 50% of the variance (see Table 49). For females in Grade 7, BKSRD, READTO, and NWSRD combined to produce an equation with an $F = 13.94$ ($r^2 = .67$). For Females/Grade 8, BKSOWN and BKSRD combined to produce an equation with an $F = 23.24$ ($r^2 = .62$). It would appear that the number of non-school required books read in the previous year (BKSRD) is an important variable when seeking to predict reading attitude, especially in females. Number of books owned (BKSOWN) also correlated significantly with reading attitude.

TABLE 49

SUMMARY TABLE OF REGRESSION EQUATIONS WITH 50%
OR MORE OF VARIANCE ACCOUNTED FOR

Group	Variable*	n	F	r ²
Females/Grade 7	MBRAM	25	**13.94	.67
Regression Equation:				
$(.86 \times \text{BKSRD}) + (.60 \times \text{READTO}) + (.40 \times \text{NWSRD}) = \widetilde{\text{MBRAM}}$				
Females/Grade 8	MBRAM	31	**23.04	.62
Regression Equation:				
$(.43 \times \text{BKSOWN}) + (.39 \times \text{BKSRD}) = \widetilde{\text{MBRAM}}$				
Females/Grade 7	READTO	25	**11.49	.70
Regression Equation:				
$(.41 \times \text{BKSOWN}) + (-.95 \times \text{BKSRD}) + (.74 \times \text{MBRAM}) + (.46 \times \text{NWSRD}) = \widetilde{\text{READTO}}$				
Males/Grade 7	READTO	27	** 7.63	.50
Regression Equation:				
$(.49 \times \text{SC}) + (.38 \times \text{BKSOWN}) + (.33 \times \text{MBRAM}) = \widetilde{\text{READTO}}$				
Females/Grade 8	BKSOWN	31	**38.57	.73
Regression Equation:				
$(.60 \times \text{BKSRD}) + (.30 \times \text{MBRAM}) = \widetilde{\text{BKSOWN}}$				
Grade 7	BKSRD	52	**12.41	.57
Regression Equation:				
$(.48 \times \text{MBRAM}) + (.29 \times \text{BKSOWN}) + (.23 \times \text{NWSRD}) + (.25 \times \text{RDACH}) + (-.38 \times \text{READTO}) = \widetilde{\text{BKSRD}}$				

TABLE 49 (continued)

Group	Variable*		F	r ²
Females/Grade 6	BKSRD	31	**11.42	.64
Regression Equation:				
$(.30 \times \text{BKSOWN}) + (.48 \times \text{RDACH}) + (.27 \times \text{MBRAM}) + (.27 \times \text{NWSRD}) =$ $\widetilde{\text{BKSRD}}$				
Females/Grade 7	BKSRD	25	**27.45	.90
Regression Equation:				
$(.50 \times \text{READTO}) + (.50 \times \text{MBRAM}) + (.22 \times \text{BKSOWN}) + (.39 \times \text{NWSRD}) +$ $(.24 \times \text{RDACH}) + (.27 \times \text{SC}) = \widetilde{\text{BKSRD}}$				
Females/Grade 8	BKSRD	31	**37.39	.73
Regression Equation:				
$(.63 \times \text{BKSOWN}) + (.28 \times \text{MBRAM}) = \widetilde{\text{BKSRD}}$				
Females/Grade 7	RDACH	25	**12.64	.50
Regression Equation:				
$(.61 \times \text{BKSRD}) + (.24 \times \text{BKSOWN}) = \widetilde{\text{RDACH}}$				

*Variables: MBRAM = reading attitude
 READTO = amount read to as a child
 BKSOWN = number of books owned
 BKSRD = number of books read last year
 RDACH = reading achievement
 SC = self-concept
 NWSRD = newspaper read daily

**p = .01

For the dependent variable amount read to as a child (READTO), two regression equations were found to account for 50% or more of the variance (see Table 49). For Males/Grade 7, SC, BKSOWN, and MBRAM combined to produce an equation with an $F = 7.63$ ($r^2 = .50$). For Females/Grade 7, BKSRD, MBRAM, BKSOWN, and NWSRD combined to produce an equation with an $F = 11.49$ ($r^2 = .70$). It would appear that the number of books owned (BKSOWN) and the attitude toward reading (MBRAM) are important variables in the prediction of READTO, especially in seventh-grade students. The variable self-concept (SC) was also found to correlate significantly with READTO and was entered into six of the twelve regression equations.

For the dependent variable number of books owned (BKSOWN), only one regression equation was found which accounted for 50% or more of the variance (see Table 49). For Females/Grade 8, the variables BKSRD and MBRAM combined to produce an $F = 38.57$ ($r^2 = .73$). The number of nonschool required books read in the previous year (BKSRD) appears to be the single most important predictor of the dependent variable BKSOWN. The Pearson Correlation coefficient also revealed an $r = .40$ between BKSRD and BKSOWN; however, BKSOWN also correlated significantly with reading attitude (MBRAM) and amount read to as a child (READTO).

For the dependent variable number of magazines in the home on a monthly basis (MAGA), no regression equation was

found to account for 50% or more of the variance. MAGA was found to correlate significantly with only one of the other seven variables, amount read to as a child (READTO), and this variable entered into five of the twelve regression equations. However, the null hypothesis concerning number of magazines in the home on a monthly basis (MAGA) was not rejected, as MAGA was not found to be predictable by any set of variables.

For the dependent variable number of nonschool required books read in the previous year (BKSRD), four regression equations were found to account for more than 50% of the variance (see Table 49). For Grade 7, the variables MBRAM, BKSOWN, NWSRD, RDACH, and READTO combined to produce an $F = 12.41$ ($r^2 = .57$). For Females/Grade 6, BKSOWN, RDACH, MBRAM, and NWSRD combined to produce an $F = 11.24$ ($r^2 = .64$). For Females/Grade 8, BKSOWN and MBRAM combined to produce an $F = 37.39$ ($r^2 = .73$). For Females/Grade 7, READTO, MBRAM, BKSOWN, NWSRD, RDACH, and SC combined to produce an $F = 27.45$ ($r^2 = .90$). The variables number of books owned (BKSOWN) and reading attitude (MBRAM) were common to all four equations and thus important predictors of the variable BKSRD, especially for females as a group, as well as for females at each grade level. These findings were also consistent with the Pearson Correlation coefficients.

For the dependent variable amount of newspaper read on a daily basis (NWSRD), no regression equation was found which

accounted for 50% or more of the variance. Reading achievement (RDACH) was the only single variable which appeared in four of the twelve regression equations and was thus an important predictor of amount of newspaper read on a daily basis, as previously indicated by the Pearson Correlation coefficient. NWSRD also correlated significantly with reading attitude (MBRAM), number of nonschool required books read in the previous year (BKSRD), and amount read to as a child (READTO). However, the null hypothesis concerning amount of newspaper read on a daily basis (NWSRD) was not rejected, as NWSRD was not found to be predictable by any set of variables.

For the dependent variable reading achievement (RDACH), one regression equation was found which accounted for more than 50% of the variance (see Table 49). For Females/Grade 7, the variables BKSRD and BKSOWN combined to produce an $F = 12.46$ ($r^2 = .53$). For the variable reading achievement (RDACH), the number of nonschool required books read in the previous year (BKSRD) appeared to be the single most important predictor and had the highest correlation ($r = .32$) of the other seven variables. Number of books owned (BKSOWN) and amount of newspaper read on a daily basis (NWSRD) also correlated significantly with RDACH, and are thus important variables in the prediction of RDACH.

For the dependent variable self-concept (SC), no regression equation was found to account for 50% or more

of the variance. However, the amount read to as a child (READTO) was entered in Step 1 in eight of the twelve regression equations and appears to be the single variable most important to the prediction of self-concept. READTO was also the one variable which correlated significantly with SC. No variable, however, was a good predictor of self-concept, and the null hypothesis was not rejected.

CHAPTER V

SUMMARY, FINDINGS, ANALYSIS OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Many educators and psychologists in the past have held the belief that reading achievement is influenced by a variety of factors. Some of the factors commonly cited have been self-concept, reading attitude, and various aspects of home literary environment. Although there are a great many research studies which have dealt with each of these factors and their singular influence on reading achievement, and other studies which have dealt with two or even three of these factors in combination, no studies were found which analyzed the interrelatedness of all four of the above variables.

I. SUMMARY

The subjects for this study consisted of 163 sixth, seventh, and eighth grade children. These subjects represented varying levels of self-concept, reading achievement, reading attitude and home literary environment.

Each subject's attitude toward reading was measured by the Mikulecky Behavioral Reading Attitude Measure (1977). A score of 0 represented the least positive attitude toward reading and a score of 5 represented the most positive

attitude toward reading. Each subject's self-concept was determined by the TOTAL POSITIVE score from the Tennessee Self Concept Scale. The Reading Achievement score from the Stanford Achievement Test was the score used to represent the reading achievement level of each subject. Each subject's home literary environment was assessed through a series of writer-made questions concerning the amount the subject was read to as a child, the number of books he owned, the number of magazines in the home on a monthly basis, the number of nonschool required books he had read in the previous year, and the amount of newspaper he reads on a daily basis (see Appendix D).

The following null hypotheses were proposed:

1. There is no degree of linear relationship between reading attitude (MBRAM) and some linear combination of the following variables: READTO, BKSOWN, MAGA, BKS RD, NWSRD, RDACH, or SC.

2. There is no degree of linear relationship between amount read to as a child (READTO) and some linear combination of the following variables: MBRAM, BKSOWN, MAGA, BKS RD, NWSRD, RDACH, or SC.

3. There is no degree of linear relationship between the number of books owned (BKSOWN) and some linear combination of the following variables: MBRAM, READTO, MAGA, BKS RD, NWSRD, RDACH, or SC.

4. There is no degree of linear relationship between number of magazines in the home on a monthly basis (MAGA) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, BKSRD, NWSRD, RDACH, or SC.

5. There is no degree of linear relationship between number of nonschool required books read in the previous year (BKSRD) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, NWSRD, RDACH, or SC.

6. There is no degree of linear relationship between amount of newspaper read on a daily basis (NWSRD) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKSRD, RDACH, or SC.

7. There is no degree of linear relationship between reading achievement (RDACH) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKSRD, NWSRD, or SC.

8. There is no degree of linear relationship between self-concept (SC) and some linear combination of the following variables: MBRAM, READTO, BKSOWN, MAGA, BKSRD, NWSRD, or RDACH.

The research tools were selected on the basis of the null hypotheses proposed and the form of the data. Several statistical analyses were conducted using both the Statistical Package for the Social Sciences (SPSS) and the Statistical

Analyses System (SAS) computing software packages. Pearson Correlation coefficients were computed among all eight variables. A Two-Way Factorial Analysis of Variance was used to examine the main effects of grade, sex, and the interaction effect of sex and grade on each of the eight dependent variables. Whenever significant mean differences were found, the Duncan's Multiple Range Test was used as the post hoc test to assess where the differences were occurring.

Regression analyses were examined for the entire sample, each sex, each grade, and all combinations of sex and grade for the eight variables (MBRAM, READTO, BKSOWN, MAGA, BKS RD, NWSRD, RDACH, and SC) to determine which combination of variables best predicted the dependent variables. Each variable was treated as a dependent variable in one set of analyses.

Variables were introduced into the multiple regression equations using a stepwise, forward linear regression technique. The variable entering at each step was the variable whose partial correlation coefficient with the dependent variable, after partialing out all variables already entered, was largest. When the entrance of a variable into the equation no longer significantly affected the degree of variability accounted for by the equation, the equation was considered complete. The Beta or standardized coefficients rather than the unstandardized coefficients were used, since

the scales upon which the data were measured were not all uniform.

Because of the large number of analyses examined, and to protect against an inflated level of significance, $p \leq .01$ was used as the level of significance. Only regression equations accounting for 50% or more of the variance were considered useful as predictive measurements.

II. FINDINGS

On the basis of the data presented for the 163 subject students, the following conclusions were drawn:

1. Reading attitude (MBRAM) does correlate significantly with some linear combination of the other variables for females in Grade 7 and females in Grade 8 (see Table 49, pp. 185-186). For Females/Grade 7, BKSRD, READTO, and NWSRD combine to produce a regression equation with an F value of 13.94 and accounting for 67% of the variance. For Females/Grade 8, BKSOWN and BKSRD combine to produce a regression equation with an F value of 23.24 and accounting for 62% of the variance.

2. The amount read to as a child (READTO) does correlate significantly with some linear combination of the other variables for both males and females in Grade 7 (see Table 49). For Females/Grade 7, BKSOWN, BKSRD, MBRAM, and NWSRD combine to produce a regression equation with an F

value of 11.49 and accounting for 70% of the variance. For Males/Grade 7, SC, BKSOWN, and MBRAM combine to produce a regression equation with an F value of 7.63 and accounting for 50% of the variance.

3. The number of books owned by the subject (BKSOWN) does correlate significantly with some linear combination of the other variables for females in Grade 8 (see Table 49, pp. 185-186). For Females/Grade 8, BKSRD and MBRAM combine to produce a regression with an F value of 38.57 and accounting for 73% of the variance.

4. The number of magazines in the home on a monthly basis (MAGA) does not correlate with any linear combination of the other variables.

5. The number of nonschool required books read in the previous year (BKSRD) does correlate significantly with some linear combination of the other variables for all subjects in Grade 7 and for females in each Grade 6, 7, and 8 (see Table 49). For Grade 7, MBRAM, BKSOWN, NWSRD, RDACH, and READTO combine to produce a regression equation with an F value of 12.41 and accounting for 57% of the variance. For Females/Grade 6, BKSOWN, RDACH, MBRAM, and NWSRD combine to produce a regression equation with an F value of 11.42 and accounting for 64% of the variance. For Females/Grade 7, READTO, MBRAM, BKSOWN, NWSRD, RDACH, and SC combine to produce a regression equation with an F value

of 27.45 and accounting for 90% of the variance. For Females/Grade 8, BKSOWN and MBRAM combine to produce a regression equation with an F value of 37.39 and accounting for 73% of the variance.

6. The amount of newspaper read on a daily basis (NWSRD) does not correlate significantly with any linear combination of the other variables.

7. The level of reading achievement (RDACH) does correlate significantly with some linear combination of the other variables for females in Grade 7 (see Table 49, pp. 185-186). For Females/Grade 7, BKSRD and BKSOWN combine to produce a regression equation with an F value of 12.64 and accounting for 50% of the variance.

8. Self-concept (SC) of the subject does not correlate significantly with any linear combination of the other variables.

III. ANALYSIS OF FINDINGS

Generalization of the results of this study beyond the 163 subjects studied would be difficult. Attitudes and self-concept tend to be highly individual and specific to a given situation. The findings from the data gathered in this study, however, add to the present body of knowledge.

On the basis of the data, a number of conclusions can be made. These will be discussed in the paragraphs which follow.

1. MBRAM

- a. Females have a slightly more positive reading attitude than do males.
- b. Reading attitude becomes less positive with each successively higher grade level achieved in school.
- c. Reading attitude correlates most highly with number of nonschool required books read in the previous year.
- d. Reading attitude correlates significantly with reading achievement.
- e. Reading attitude correlates significantly with the amount a subject was read to as a child and the number of books he personally owns.
- f. Reading attitude does not correlate significantly with number of magazines in the home on a monthly basis.
- g. Reading attitude does not correlate significantly with self-concept.
- h. Reading attitude can be predicted for females in Grade 7 with 67% of the variance accounted for.
- i. Reading attitude can be predicted for females in Grade 8 with 62% of the variance accounted for.

2. READTO

- a. The amount a subject was read to as a child does not correlate significantly with the number of books read in the previous year.
- b. The amount a subject was read to as a child correlated most highly with number of books personally owned.
- c. The amount a subject was read to as a child correlates significantly with reading attitude and reading achievement.
- d. The amount a subject was read to as a child correlates significantly with self-concept.
- e. Amount read to as a child can be predicted for females in Grade 7 with 70% of the variance accounted for.
- f. Amount read to as a child can be predicted for males in Grade 7 with 50% of the variance accounted for.

3. BKSOWN

- a. Females own more books than males.
- b. The higher the grade level in school, the lower the number of books personally owned.
- c. Number of books owned correlates most highly with the number of nonschool required books read in the previous year.

- d. Number of books owned correlates significantly with reading attitude and reading achievement.
- e. Number of books owned correlates significantly with amount read to as a child and amount of newspaper read on a daily basis.
- f. Number of books owned does not correlate significantly with number of magazines in the home on a monthly basis or with self-concept.
- g. Number of books owned can be predicted for females in Grade 8 with 73% of the variance accounted for.

4. MAGA

- a. Number of magazines in the home on a monthly basis correlates significantly with amount read to as a child.
- b. Number of magazines in the home on a monthly basis does not correlate significantly with any other variable studied.
- c. Number of magazines in the home on a monthly basis cannot be predicted with at least 50% of the variance accounted for.

5. BKSRD

- a. Females read more nonschool required books than do males.

- b. The number of nonschool required books read becomes successively lower with each higher grade level in school.
- c. Number of nonschool required books read in the previous year correlates most highly with number of books owned.
- d. Number of nonschool required books read correlates significantly with reading attitude
- e. Number of nonschool required books read does not correlate significantly with amount read to as a child, number of magazines in the home on a monthly basis, or self-concept.
- f. Number of nonschool required books read in the previous year can be predicted for females in Grade 7 with 90% of the variance accounted for.
- g. Number of nonschool required books read in the previous year can be predicted for females in Grade 8 with 73% of the variance accounted for.
- h. Number of nonschool required books read in the previous year can be predicted for females in Grade 6 with 64% of the variance accounted for.

- i. Number of nonschool required books read in the previous year can be predicted for all subjects in Grade 7 with 57% of the variance accounted for.

6. NWSRD

- a. Amount of newspaper read on a daily basis correlates most highly with reading achievement.
- b. Amount of newspaper read on a daily basis correlates significantly with number of books owned, reading attitude, number of nonschool required books read the previous year, and amount read to as a child.
- c. Amount of newspaper read on a daily basis does not correlate significantly with self-concept or with number of magazines in the home on a monthly basis.
- d. Amount of newspaper read on a daily basis cannot be predicted with at least 50% of the variance accounted for.

7. RDACH

- a. Reading achievement scores for students in Grade 7 were lower than those for students in Grade 6.

- b. Reading achievement correlates most highly with number of nonschool required books read in the previous year.
 - c. Reading achievement correlates significantly with number of books owned, amount of newspaper read daily, amount read to as a child, and reading attitude.
 - d. Reading achievement does not correlate significantly with self-concept.
 - e. Reading achievement can be predicted for females in Grade 7 with 53% of the variance accounted for.
8. SC
- a. Males have a slightly more positive self-concept than females.
 - b. Students in Grade 8 have a less positive self-concept than students in Grade 6 or 7.
 - c. Self-concept correlates significantly with amount read to as a child.
 - d. Self-concept does not correlate significantly with any other variable studied.
 - e. Self-concept cannot be predicted with at least 50% of the variance accounted for.

1. MBRAM

The first hypothesis proposed in the study dealt with reading attitude (MBRAM) and its relationship to the other seven variables. Females were found to have a slightly more positive attitude toward reading ($m = 2.29$) than males ($m = 2.07$). These findings support those of Gardner (1972) and Neilson (1977). In addition, the attitude toward reading became less positive with each successively higher grade level achieved in school for all groups except males in Grade 7. The entire sample had a mean MBRAM = 2.18 on a 0-5 scale, indicating that the sample population in general had a slightly negative attitude toward reading.

Reading attitude was found to correlate most highly with number of nonschool required books read in the previous year (BKSRD) and to correlate significantly with all but two (MAGA, SC) of the other six variables. These findings agree with Gardner's (1972) study that self-concept and reading attitude are not significantly related for females, but did not support her findings that they are related for males. This difference in findings may be partially accounted for by the fact that Gardner's study involved Indian children and the cultural and environmental differences may have significantly influenced her results.

Reading attitude correlated significantly ($r = .21$) with reading achievement, even though it was not included in the

two regression equations accounting for more than 50% of the variance. These correlational results support the findings of Frazier and Combs (1958), Mikulecky (1977), Nielson (1977), Koe (1979), and others. They fell short, however, of the high correlations (.34 and .45) which Groff (1962) reported between reading attitude and reading achievement.

The results of this study also support the findings of Lampert and Saunders (1976) that reading attitude is significantly related to the amount a subject was read to as a child and the number of books he personally owns. However, the .07 correlation between reading attitude and self-concept did not support the writer's assumption that reading attitude and self-concept are significantly correlated.

For females in Grade 7, reading attitude could be predicted with 67% of the variance accounted for by the following regression equation:

$$(.86 \times \text{BKSRD}) + (.60 \times \text{READTO}) + (.40 \times \text{NWSRD}) = \widetilde{\text{MBRAM}}.$$

For females in Grade 8, reading attitude could be predicted with 62% of the variance accounted for by the following regression equation:

$$(.43 \times \text{BKSOWN}) + (.39 \times \text{BKSRD}) = \widetilde{\text{MBRAM}}$$

It would appear that the number of nonschool required books read in the previous year (BKSRD) is an important variable when seeking to predict reading attitude, especially

in females. The number of books owned (BKSOWN) also correlated significantly with reading attitude.

2. READTO

The second hypothesis proposed in the study dealt with the relationship between the amount the subject was read to as a young child (READTO) and the other seven variables. This was considered an aspect of home literary environment and was assessed by the subject through the use of a Likert-type, 5 point scale. Interpretation of the means for each group indicated that as a whole the subjects reported that they were read to from "some" to "quite a bit" as young children. Females reported that they were read to slightly more than males, but the differences were not significant.

The amount the subject was read to as a child was found to correlate significantly with all but one (BKSRD) of the other seven variables. In keeping with the findings of Almy (1949), Milner (1951), Durkin (1966, 1970), Hansen (1969), Hane (1977), and Alvira-Benitez (1978), READTO correlated highly with number of books owned ($r = .29$), reading attitude ($r = .22$), and reading achievement ($r = .22$). It also correlated significantly with self-concept.

For females in Grade 7, amount read to as a child could be predicted with 70% of the variance accounted for by the following regression equation:

$$(.41 \times \text{BKSOWN}) + (-.95 \times \text{BKSRD}) + (.74 \times \text{MBRAM}) +$$

$$(.46 \times \text{NWSRD}) = \widetilde{\text{READTO}}.$$

For males in Grade 7, amount read to as a child could be predicted with 50% of the variance accounted for by the following regression equation:

$$(.49 \times \text{SC}) + (.38 \times \text{BKSOWN}) + (.33 \times \text{MBRAM}) = \widetilde{\text{READTO}}.$$

For this group, the reported amount read to as a child was more closely related to self-concept than to any other variable, indicating that perhaps these subjects perceived how much they had been read to as young children more in light of their present feelings of self-worth than in the reality of the actual amount they were read to as young children.

3. BKSOWN

The third hypothesis, also an element of home literary environment, dealt with the number of books personally owned by the subject (BKSOWN) and its relationship to the other seven variables. Each subject estimated the number of books he personally owned and answers varied from none to 400 books owned. Females reported owning more books than males, and the higher the grade level in school the lower the number of books reported. The mean values among the groups, however, did not differ significantly.

In this study the number of books owned correlated most highly with the number of nonschool required books read the previous year (BKSRD), with $r = .40$. This was an expected outcome, as it was assumed that subjects who personally owned many books would read more outside of the school requirements. BKSOWN also correlated significantly with reading attitude, amount read to as a child, reading achievement, and amount of newspaper read on a daily basis. These findings support the earlier findings of Milner (1951), Sheldon and Carrillo (1952), Berry, Parker, and Zwier (1971), and Goodson (1974).

For females in Grade 8, the number of books owned could be predicted with 73% of the variance accounted for by the following regression equation:

$$(.60 \times \text{BKSRD}) + (.30 \times \text{MBRAM}) = \widetilde{\text{BKSOWN}}.$$

4. MAGA

The fourth hypothesis proposed in this study dealt with a third aspect of home literary environment, the number of magazines in the home on a monthly basis (MAGA), and its relationship to the other seven variables. The number of magazines in the home monthly was estimated by the subject and answers ranged from none to 50 magazines monthly.

The number of magazines in the home on a monthly basis was found to correlate significantly with only one of the

other seven variables, amount read to as a child ($r = .19$). No regression equation was developed which accounted for 50% or more of the variance. It was concluded from these findings that for these 163 subjects, the number of magazines in the home on a monthly basis does not correlate significantly with any linear combination of the other seven variables. These findings appear to be in contrast to the findings of Callaway (1972) and Goodson (1974), which indicated a significant relationship between availability of magazines in the home and reading achievement. They do, however, support the findings of Robinson (1946) that the number of magazines in the home is unrelated to reading failure. This was the one variable, however, in which the mean scores rose with the increase in grade level, indicating that perhaps older children are more interested in magazines and thus more aware of their presence in their homes.

5. BKSRD

The fifth hypothesis proposed in this study dealt with the relationship between number of nonschool required books read in the previous year (considered an aspect of home literary environment for the purposes of this study) and some linear combination of the other seven variables. The subjects estimated the number of nonschool required books which they had read in the previous year, and responses ranged from none to 500 books read. Females reported reading

more books than did males, and the number of books read became successively lower with each higher grade level in school. The interaction effect of sex and grade appeared to be significant for this variable; but, although it approached significance, it was not significant at the $p \leq .01$ level.

The number of nonschool required books read in the previous year was found to correlate significantly with four of the other seven variables. It correlated most highly with number of books owned, reading attitude, and reading achievement. It correlated significantly with amount of newspaper read on a daily basis, but this correlation was considerably smaller than the other three. These findings appear to support the previous findings of Bamberger (1977) that the number of books read in the previous year correlates significantly with reading achievement and number of books owned.

For females in Grade 7, the number of nonschool required books read in the previous year could be predicted with 90% of the variance accounted for by the following regression equation:

$$(.50 \times \text{READTO}) + (.50 \times \text{MBRAM}) + (.22 \times \text{BKSOWN}) + \\ (.39 \times \text{NWSRD}) + (.24 \times \text{RDACH}) + (.27 \times \text{SC}) = \widetilde{\text{BKSRD}}.$$

This equation used six of the seven available variables and accounted for a greater percentage of variance than any regression equation calculated for this study.

For females in Grade 8, the number of nonschool required books read in the previous year could be predicted with 73% of the variance accounted for by the following regression equation:

$$(.63 \times \text{BKSOWN}) + (.28 \times \text{MBRAM}) = \widetilde{\text{BKSRD}}.$$

For females in Grade 6, the number of nonschool required books read in the previous year could be predicted with 64% of the variance accounted for by the following regression equation:

$$(.30 \times \text{BKSOWN}) + (.48 \times \text{RDACH}) + (.27 \times \text{MBRAM}) + \\ (.27 \times \text{NWSRD}) = \widetilde{\text{BKSRD}}.$$

For all subjects in Grade 7, the number of nonschool required books read in the previous year could be predicted with 57% of the variance accounted for by the following regression equation:

$$(.48 \times \text{MBRAM}) + (.29 \times \text{BKSOWN}) + (.23 \times \text{NWSRD}) + \\ (.25 \times \text{RDACH}) + (-.38 \times \text{READTO}) = \widetilde{\text{BKSRD}}.$$

It would appear that the number of books owned and the reading attitude are the two most important predictor variables for number of nonschool required books read in the previous year, especially for females.

6. NWSRD

The sixth hypothesis proposed in the study dealt with a fifth aspect of home literary environment, the amount of newspaper read on a daily basis, and its relationship to the other seven variables. The subjects estimated and ranked this on a Likert-type 5-point scale. Answers ranged from none of the newspaper read to all of the newspaper read daily.

The amount of the newspaper read on a daily basis (NWSRD) correlated most highly with reading achievement and number of books owned. It also correlated significantly with reading attitude, number of books read in the previous year, and amount the subject was read to as a child. Since no other study was found which reported the effect of the amount of the newspaper a child reads on a daily basis on any of the other seven variables, these findings could neither support nor disagree with any previous findings. However, the availability of a newspaper in the home had been cited by some researchers (Goodson, 1974; Thorndike, 1972) as being important to reading achievement. The data analyzed in this study suggests that this may be an accurate assessment.

No regression equation was developed which accounted for 50% or more of the variance. It was concluded from these findings that for these 163 subjects, the amount of newspaper read on a daily basis does not correlate significantly with any linear combination of the other seven variables.

7. RDACH

The seventh hypothesis proposed in the study dealt with reading achievement (RDACH) and its relationship to the other seven variables. Reading achievement was determined by the Reading Achievement score of the Stanford Achievement Test. It is expressed in grade levels, with the lowest scores (3.0) interpreted as third year, no months, and the highest scores (12.8) interpreted as twelve years and eight months of schooling.

Although it is generally assumed that the mean scores of reading achievement will increase with each higher grade level achieved in school, this was not the case in this study. All students in Grade 7, as well as males and females in Grade 7, recorded lower mean scores than their counterparts in Grades 6 and 8. In addition, the mean value for Grade 8 was significantly higher than that for Grade 6 and Grade 7, even though significant differences might only have been expected to occur between Grades 6 and 8. This may indicate a serious limitation of the sample population in that it indicates a strong possibility that either subjects in Grade 7 are not representative of other Grade 7 students, because their reading achievement scores are lower, or that the subjects in Grades 6 and 8 are not representative of other Grade 6 and Grade 8 students in that their reading achievement scores are somewhat higher than those of the general population.

Reading achievement correlated most highly with the number of nonschool required books read in the previous year. These findings supported those of Bamberger (1977). Reading achievement also correlated significantly with number of books owned, amount of newspaper read on a daily basis, amount read to as a child, and reading attitude. Reading achievement was not found to correlate significantly with self-concept, thus supporting those findings of Butcher (1967), Williams (1973), and Childress (1976) that reading achievement and self-concept are not significantly related. These results are not in agreement, however, with the studies by Lamy (1963), Chronister (1964), Tolla (1968), and Spears and Deese (1973), which had reported a significant relationship between reading achievement and self-concept. The significant relationship found between reading achievement and reading attitude supports the findings of a number of researchers, including Hunt (1965) and Dechant (1970).

All the aspects of home literary environment included in this study, with the exception of number of magazines in the home on a monthly basis, were found to correlate significantly with reading achievement. These findings support those of most of the studies reviewed in Chapter II, which found reading achievement and home literary environment significantly related.

For females in Grade 7, reading achievement could be predicted with 53% of the variance accounted for by the following regression equation:

$$(.61 \times \text{BKSRD}) + (.24 \times \text{BKSOWN}) = \widetilde{\text{RDACH}}.$$

8. SC

The final hypothesis proposed in this study dealt with self-concept (SC) and its relationship to the other seven variables. According to the means, males reported a slightly higher self-concept than females and eighth graders recorded a lower self-concept than sixth and seventh graders. These findings were consistent with those of Morse (1964), who reported that the self-concept of children begins to become less positive each year after the third grade.

According to the data analyzed for this study, self-concept correlated significantly with only one of the other seven variables, amount read to as a child. It is possible, however, that this correlation is slightly skewed by the fact that the estimation of READTO by the subjects may have been based more on their own feelings of self-worth (self-concept) than on the actual degree to which they were read to as young children.

The findings of this study do not support those studies which found self-concept significantly related to reading achievement (Lamy, 1963; Chronister, 1964; Cummings, 1971;

Basemore and Gwaltney, 1973; Dixon, 1975). They do, however, support those findings by Childress (1976) that self-concept is not significantly related to achievement in reading.

Self-concept was found not to correlate significantly with reading attitude. Only one other study was found which dealt with this relationship, and the data in that study were inconclusive. No previous studies were found which dealt with the relationship between self-concept and home literary environment.

No regression equation was calculated which could predict self-concept with 50% or more of the variance accounted for.

IV. CONCLUSIONS AND RECOMMENDATIONS

1. The findings of this study pointed out the complexity of the reading act and the variety of skills, abilities, attitudes, and experiences which affect and cross-affect it.

2. The findings of this study reaffirmed the limitations of currently existing instruments for measuring various factors related to reading, perhaps including the difficulty of reducing something which may be essentially an art form to a set of sub-skills. An example of this is the low relationship between books read independently and expressed attitude toward reading indicated by the Mikulecky Behavioral Reading Attitude Measure. Choosing reading freely may be the

best expression of attitude toward it. Although number of books read freely the year before is only one element of freely choosing reading, it may be a better measure of attitude toward reading than any attitude scale.

3. Based on the findings of this study, self-concept is not significantly related to the reading achievement of the child and, thus, not as important to student achievement in the school as previously theorized. This lack of significant correlation between self-concept and reading achievement also indicates that perhaps higher reading achievement does not necessarily lead to higher self-esteem as has been previously indicated by some studies.

4. Schools do not appear to be positively affecting the self-concept of the students, as indicated by the decline in self-concept scores for each successively higher grade achieved in school. It is recommended that educators provide a reading program that will ensure the success of each child and thus foster the development of more positive self-concepts in children.

5. Males do appear to have a slightly less positive attitude toward reading than do females, and the higher the achieved grade level in school the less positive the reading attitude becomes for both males and females. Since the findings of this study suggest that reading attitude is important to reading achievement, it is recommended that

educators make a more concerted effort to improve the reading attitude of students, especially males and students in the upper grades.

6. All of the variables termed home literary environment were found to correlate significantly with reading achievement and/or reading attitude, except the number of magazines in the home on a monthly basis. However, since magazines are widely available in other places (schools, libraries, waiting rooms, and so forth) besides the home, this finding does not necessarily indicate that the availability of magazines is unimportant to reading achievement and/or reading attitude.

7. As four of the five variables considered aspects of home literary environment were found to be significantly related to reading achievement and/or reading attitude, it is recommended that educators take more interest in the home literary environment and spend more time and money on educating parents to the importance of the home environment to reading achievement. Educators should encourage parents to (1) spend more time reading to their children, (2) encourage their children to read more books outside of the classroom, (3) encourage their children to own more books personally, (4) make available to their children a daily newspaper and encourage them to read more of it, and

(5) generally include as many experiences involving reading and opportunities for reading in the home setting as possible.

8. The data seemed to indicate that female behavior (at least in the areas measured) is slightly easier to predict than male behavior.

9. Based on the findings of this study that self-concept and amount read to as a child are significantly related, it is recommended that further research be conducted to determine if this is a true and significant relationship or if it only appears so because of the nature of the question concerning amount read to as a child. It is further recommended that the use of parent estimation of this variable be used to help evaluate accuracy of subject estimation.

10. It is recommended that further correlation studies involving the same eight variables be conducted with larger samples of children from various geographical locations, to determine whether or not the results from this sample population are generalizable to the larger population.

11. It would seem that correlational studies (especially those which are in part or in total ex post facto) can be of use primarily as hypotheses generators, rather than hypotheses testers. It is recommended that further experiments be conducted in which certain factors are controlled and investigated on a long-term basis.

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APPENDIXES

APPENDIX A

TABLE 50

CORRELATIONS BETWEEN MMPI SCORES AND THE TENNESSEE SELF-CONCEPT SCALE

MMPI Scores	Tot. P	Row 1	Row 2	Row 3	Col. A	Col. B	Col. C	Col. D	Col. E	Tot. V	Scores on Tennessee Self-Concept Scale				Distribution				Empirical Scales				PI	NOS	
											T/F	Net	Conflict	Tot.	1	2	3	4	5	6	7	8			
7	(.26)	(.28)	(.28)	(.25)	(.22)	(.34)	(.29)	(.24)	(.21)	(.33)	(.35)	(.27)	(.34)	(.18)	(.20)	(.27)	(.32)	(.31)	(.22)	(.26)	(.32)	(.24)	(.29)	(.21)	(.22)
8	(.01)	(.17)	(.14)	(.15)	(.08)	(.22)	(.22)	(.16)	(.16)	(.26)	(.29)	(.32)	(.33)	(.22)	(.25)	(.30)	(.26)	(.34)	(.29)	(.33)	(.22)	(.24)	(.15)	(.08)	(.10)
9	(.28)	(.39)	(.34)	(.22)	(.19)	(.01)	(.22)	(.16)	(.15)	(.08)	(.02)	(.19)	(.16)	(.05)	(.17)	(.11)	(.13)	(.25)	(.18)	(.35)	(.14)	(.28)	(.38)	(.22)	(.22)
L	(.34)	(.63)	(.42)	(.55)	(.53)	(.45)	(.63)	(.61)	(.63)	(.37)	(.34)	(.37)	(.47)	(.56)	(.61)	(.42)	(.47)	(.43)	(.45)	(.57)	(.68)	(.60)	(.57)	(.56)	(.59)
F	(.05)	(.37)	(.42)	(.28)	(.37)	(.31)	(.22)	(.28)	(.37)	(.35)	(.42)	(.46)	(.34)	(.38)	(.25)	(.38)	(.30)	(.22)	(.32)	(.29)	(.42)	(.42)	(.39)	(.37)	(.45)
K	(.40)	(.41)	(.38)	(.39)	(.43)	(.42)	(.27)	(.35)	(.42)	(.39)	(.38)	(.25)	(.47)	(.58)	(.58)	(.42)	(.26)	(.11)	(.07)	(.04)	(.19)	(.17)	(.49)	(.48)	(.45)
Ha	(.19)	(.43)	(.45)	(.39)	(.46)	(.58)	(.48)	(.29)	(.36)	(.13)	(.14)	(.01)	(.15)	(.01)	(.03)	(.15)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Hi	(.30)	(.34)	(.40)	(.38)	(.53)	(.38)	(.53)	(.24)	(.37)	(.43)	(.38)	(.53)	(.24)	(.37)	(.43)	(.38)	(.53)	(.24)	(.37)	(.43)	(.38)	(.53)	(.24)	(.37)	(.43)
Ha+K	(.01)	(.20)	(.26)	(.09)	(.21)	(.42)	(.04)	(.29)	(.04)	(.13)	(.05)	(.31)	(.05)	(.01)	(.10)	(.20)	(.14)	(.15)	(.00)	(.03)	(.22)	(.22)	(.03)	(.39)	(.36)
D	(.01)	(.52)	(.50)	(.47)	(.50)	(.60)	(.22)	(.55)	(.47)	(.27)	(.10)	(.36)	(.13)	(.04)	(.11)	(.24)	(.04)	(.01)	(.10)	(.13)	(.18)	(.40)	(.48)	(.40)	(.43)
Hy	(.06)	(.20)	(.22)	(.15)	(.22)	(.35)	(.03)	(.36)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)
Pa	(.28)	(.45)	(.42)	(.45)	(.40)	(.47)	(.47)	(.53)	(.46)	(.46)	(.46)	(.47)	(.40)	(.39)	(.40)	(.37)	(.41)	(.38)	(.33)	(.38)	(.44)	(.49)	(.51)	(.41)	(.41)
Pd	(.30)	(.44)	(.43)	(.43)	(.43)	(.37)	(.49)	(.50)	(.52)	(.44)	(.40)	(.46)	(.38)	(.25)	(.29)	(.30)	(.34)	(.26)	(.35)	(.39)	(.42)	(.44)	(.35)	(.49)	(.44)
Pd+K	(.18)	(.30)	(.30)	(.25)	(.12)	(.26)	(.35)	(.39)	(.39)	(.25)	(.15)	(.29)	(.01)	(.00)	(.01)	(.14)	(.05)	(.06)	(.02)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)
Me	(.01)	(.06)	(.04)	(.09)	(.04)	(.15)	(.04)	(.09)	(.03)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Ma	(.36)	(.54)	(.55)	(.49)	(.53)	(.53)	(.53)	(.46)	(.50)	(.32)	(.25)	(.38)	(.51)	(.49)	(.52)	(.32)	(.46)	(.50)	(.46)	(.50)	(.48)	(.57)	(.53)	(.53)	(.53)
Pa	(.01)	(.35)	(.37)	(.28)	(.35)	(.37)	(.33)	(.30)	(.33)	(.11)	(.06)	(.13)	(.32)	(.30)	(.32)	(.19)	(.13)	(.00)	(.04)	(.19)	(.06)	(.19)	(.43)	(.39)	(.43)
Pc	(.18)	(.42)	(.46)	(.40)	(.53)	(.40)	(.53)	(.40)	(.53)	(.24)	(.12)	(.29)	(.13)	(.25)	(.31)	(.18)	(.01)	(.10)	(.12)	(.07)	(.21)	(.50)	(.62)	(.58)	(.60)
Pc+K	(.07)	(.55)	(.51)	(.49)	(.56)	(.60)	(.66)	(.61)	(.66)	(.41)	(.25)	(.48)	(.46)	(.32)	(.39)	(.33)	(.49)	(.36)	(.40)	(.32)	(.38)	(.51)	(.57)	(.52)	(.54)
Sc	(.33)	(.67)	(.68)	(.62)	(.63)	(.61)	(.60)	(.63)	(.67)	(.34)	(.34)	(.30)	(.33)	(.46)	(.54)	(.39)	(.32)	(.34)	(.35)	(.33)	(.40)	(.52)	(.65)	(.61)	(.61)
Sc+K	(.19)	(.58)	(.57)	(.51)	(.57)	(.53)	(.58)	(.57)	(.58)	(.15)	(.07)	(.19)	(.07)	(.18)	(.43)	(.26)	(.10)	(.23)	(.16)	(.15)	(.18)	(.44)	(.55)	(.48)	(.48)
Na	(.15)	(.34)	(.33)	(.32)	(.34)	(.38)	(.34)	(.36)	(.37)	(.24)	(.26)	(.29)	(.28)	(.28)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)	(.24)
Ma	(.12)	(.04)	(.03)	(.04)	(.03)	(.01)	(.01)	(.01)	(.01)	(.04)	(.01)	(.02)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)
Ma+K	(.07)	(.00)	(.00)	(.00)	(.00)	(.02)	(.02)	(.02)	(.02)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Si	(.03)	(.64)	(.60)	(.58)	(.62)	(.62)	(.62)	(.62)	(.62)	(.40)	(.44)	(.42)	(.48)	(.40)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)	(.48)
Es	(.34)	(.52)	(.51)	(.43)	(.53)	(.53)	(.53)	(.43)	(.53)	(.15)	(.10)	(.16)	(.04)	(.41)	(.44)	(.28)	(.08)	(.09)	(.07)	(.20)	(.13)	(.24)	(.51)	(.48)	(.48)

$r \pm .20 = .05$ Lower numbers are Pearson r
 $r \pm .25 = .01$ Upper numbers in parentheses are Eta

Note: The correlation ratio (Eta) is a measure of the strength of a relationship and not the direction. It always carries a positive sign. The underlying direction of Eta may sometimes, but not always, be noted from its corresponding r .

APPENDIX B

Name _____

Age _____ Sex _____ Grade _____

MIKULECKY BEHAVIORAL READING ATTITUDE MEASURE

On the following pages are 20 descriptions. You are to respond by indicating how much these descriptions are either unlike you or like you. For "very unlike" you, circle the number 1. For "very like" you, circle the number 5. If you fall somewhere between, circle the appropriate number.

EXAMPLE:

You receive a book for a Christmas present. You start the book but decide to stop halfway through.

VERY UNLIKE ME	1	2	3	4	5	VERY LIKE ME
-------------------	---	---	---	---	---	-----------------

1. You walk into the office of a doctor or dentist and notice that there are magazines set out.

VERY UNLIKE ME	1	2	3	4	5	VERY LIKE ME
-------------------	---	---	---	---	---	-----------------

2. People have made jokes about your reading in unusual circumstances or situations.

VERY UNLIKE ME	1	2	3	4	5	VERY LIKE ME
-------------------	---	---	---	---	---	-----------------

3. You are in a shopping center you've been to several times when someone asks where books and magazines are sold. You are able to tell the person.

VERY UNLIKE ME	1	2	3	4	5	VERY LIKE ME
-------------------	---	---	---	---	---	-----------------

4. You feel very uncomfortable because emergencies have kept you away from reading for a couple of days.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

5. You are waiting for a friend in an airport or supermarket and find yourself leafing through the magazines and paperback books.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

6. If a group of acquaintances would laugh at you for always being buried in a book, you'd know it's true and wouldn't mind much at all.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

7. You are tired of waiting for the dentist, so you start to page through a magazine.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

8. People who are regular readers often ask your opinion about new books.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

9. One of your first impulses is to "look it up" whenever there is something you don't know or whenever you are going to start something new.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

10. Even though you are a very busy person, there is somehow always time for reading.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

11. You've finally got some time alone in your favorite chair on a Sunday afternoon. You see something to read and decide to spend a few minutes reading just because you feel like it.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

12. You tend to disbelieve and be a little disgusted by people who repeatedly say they don't have time to read.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

13. You find yourself giving special books to friends or relatives as gifts.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

14. At Christmas time, you look in the display window of a bookstore and find yourself interested in some books and uninterested in others.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

15. Sometimes you find yourself so excited by a book you try to get friends to read it.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

16. You've just finished reading a story and settle back for a moment to sort of enjoy and remember what you've just read.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

17. You choose to read nonrequired books and articles fairly regularly (a few times a week).

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

18. Your friends would not be at all surprised to see you buying or borrowing a book.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

19. You have just gotten comfortably settled in a new city. Among the things you plan to do are check out the library and bookstore.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

20. You've just heard about a good book but haven't been able to find it. Even though you're tired, you look for it in one more bookstore.

VERY						VERY
UNLIKE ME	1	2	3	4	5	LIKE ME

TENNESSEE SELF CONCEPT SCALE

by

William H. Fitts, PhD.

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INSTRUCTIONS

On the top line of the separate answer sheet, fill in your name and the other information except for the time information in the last three boxes. You will fill these boxes in later. Write only on the answer sheet. Do not put any marks in this booklet.

The statements in this booklet are to help you describe yourself as you see yourself. Please respond to them as if you were describing yourself to yourself. Do not omit any item! Read each statement carefully, then select one of the five responses listed below. On your answer sheet, put a circle around the response you chose. If you want to change an answer after you have circled it, do not erase it but put an X mark through the response and then circle the response you want.

When you are ready to start, find the box on your answer sheet marked time started and record the time. When you are finished, record the time finished in the box on your answer sheet marked time finished.

As you start, be sure that your answer sheet and this booklet are lined up evenly so that the item numbers match each other.

Remember, put a circle around the response number you have chosen for each statement.

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

You will find these response numbers repeated at the bottom of each page to help you remember them.

1. I have a healthy body.....	1
3. I am an attractive person.....	3
5. I consider myself a sloppy person.....	5
19. I am a decent sort of person.....	19
21. I am an honest person.....	21
23. I am a bad person.....	23
37. I am a cheerful person.....	37
39. I am a calm and easy going person.....	39
41. I am a nobody.....	41
55. I have a family that would always help me in any kind of trouble.....	55
57. I am a member of a happy family.....	57
59. My friends have no confidence in me.....	59
73. I am a friendly person.....	73
75. I am popular with men.....	75
77. I am not interested in what other people do.....	77
91. I do not always tell the truth.....	91
93. I get angry sometimes.....	93

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

2. I like to look nice and neat all the time.....
4. I am full of aches and pains.....
6. I am a sick person.....
20. I am a religious person.....
22. I am a moral failure.....
24. I am a morally weak person.....
38. I have a lot of self-control.....
40. I am a hateful person.....
42. I am losing my mind.....
56. I am an important person to my friends and family.....
58. I am not loved by my family.....
60. I feel that my family doesn't trust me.....
74. I am popular with women.....
76. I am mad at the whole world.....
78. I am hard to be friendly with.....
92. Once in a while I think of things too bad to talk about.....
94. Sometimes, when I am not feeling well, I am cross.....

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

7. I am neither too fat nor too thin.....	7
9. I like my looks just the way they are.....	9
11. I would like to change some parts of my body.....	11
25. I am satisfied with my moral behavior.....	25
27. I am satisfied with my relationship to God.....	27
29. I ought to go to church more.....	29
43. I am satisfied to be just what I am.....	43
45. I am just as nice as I should be.....	45
47. I despise myself.....	47
61. I am satisfied with my family relationships.....	61
63. I understand my family as well as I should.....	63
65. I should trust my family more.....	65
79. I am as sociable as I want to be.....	79
81. I try to please others, but I don't overdo it.....	81
83. I am no good at all from a social standpoint.....	83
95. I do not like everyone I know.....	95
97. Once in a while, I laugh at a dirty joke.....	97

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

8. I am neither too tall nor too short..... 
10. I don't feel as well as I should..... 
12. I should have more sex appeal..... 
26. I am as religious as I want to be..... 
28. I wish I could be more trustworthy..... 
30. I shouldn't tell so many lies..... 
44. I am as smart as I want to be..... 
46. I am not the person I would like to be..... 
48. I wish I didn't give up as easily as I do..... 
62. I treat my parents as well as I should (Use past tense if parents are not living) 
64. I am too sensitive to things my family say..... 
66. I should love my family more..... 
80. I am satisfied with the way I treat other people..... 
82. I should be more polite to others..... 
84. I ought to get along better with other people..... 
96. I gossip a little at times..... 
98. At times I feel like swearing..... 

Responses -	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

13.	I take good care of myself physically.....	13
15.	I try to be careful about my appearance.....	15
17.	I often act like I am "all thumbs".....	17
31.	I am true to my religion in my everyday life.....	31
33.	I try to change when I know I'm doing things that are wrong.....	33
35.	I sometimes do very bad things.....	35
49.	I can always take care of myself in any situation.....	49
51.	I take the blame for things without getting mad.....	51
53.	I do things without thinking about them first.....	53
67.	I try to play fair with my friends and family.....	67
69.	I take a real interest in my family.....	69
71.	I give in to my parents. (Use past tense if parents are not living).....	71
85.	I try to understand the other fellow's point of view.....	85
87.	I get along well with other people.....	87
89.	I do not forgive others easily.....	89
99.	I would rather win than lose in a game.....	99

Responses -	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

14. I feel good most of the time 
16. I do poorly in sports and games 
18. I am a poor sleeper 
32. I do what is right most of the time 
34. I sometimes use unfair means to get ahead 
36. I have trouble doing the things that are right 
50. I solve my problems quite easily 
52. I change my mind a lot 
54. I try to run away from my problems 
68. I do my share of work at home 
70. I quarrel with my family 
72. I do not act like my family thinks I should 
86. I see good points in all the people I meet 
88. I do not feel at ease with other people 
90. I find it hard to talk with strangers 
100. Once in a while I put off until tomorrow what I ought to do today 

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

APPENDIX D

QUESTIONS ON HOME LITERARY ENVIRONMENT

1. In your judgement how much were you read to as a child?

1	2	3	4	5
none	a little	some	quite a bit	a lot

2. How many books do you personally own? _____

3. How many different magazines are in your home each month on an average? _____

4. How many books (not including any school required books) did you read last year? _____

5. What amount of the newspaper do you read every day?

1	2	3	4	5
none	one page only	about half	most	all

APPENDIX E

CONSENT FORMS

STUDENT CONSENT FORM

I, the undersigned, agree to participate in the reading analysis project to be conducted at Greeneville Middle School on June 6 and 8, 1978. The purpose of this project is to determine what, if any, relationships exist among self-concept, reading attitude, reading achievement, and home literary environment in the 6th, 7th, and 8th grades. I understand that I will be given the Mikulecky Behavioral Reading Attitude Measure, the Tennessee Self Concept Scale, and a series of questions concerning my home literary environment. These will be given during my enrichment class and will take approximately 50 minutes to complete. I also understand that my reading achievement score from the Stanford Achievement Tests which I took earlier this spring at my school will be made available to the project director. I realize that no single unit of this project will be identifiable and that my name will not be used in any of the reports of the project. I know that I have the right not to participate in the project and that I may withdraw my participation at any time without penalty.

PARENT CONSENT FORM

I, the undersigned, agree to my child's participation in the reading analysis project to be conducted at Greeneville Middle School on June 6 and 8, 1978. The purpose of this project is to determine what, if any, relationships exist among self-concept, reading attitude, reading achievement, and home literary environment in the 6th, 7th, and 8th grades. I understand that my child will be given the Mikulecky Behavioral Reading Attitude Measure, the Tennessee Self Concept Scale, and a series of questions concerning home literary environment. I also understand that his/her reading achievement score from the Stanford Achievement Test given earlier this year will be made available to the director of the study. I am assured that no single unit of this project will be identifiable and that my child's name will not be used in any of the reports of the project. I understand that my child has the right not to participate in this project and that he may withdraw at anytime without penalty.

APPENDIX F

TABLE 51

SUMMARY OF THE DATA

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
201	F	6	1	4	50	5	50	4	5.9	282
202	F	6	3	4	55	10	66	2	10.2	324
203	F	6	1	5	55	3	6	2	9.8	323
204	F	6	4	5	30	5	200	5	10.5	308
205	F	6	2	5	75	4	100	2	10.5	356
206	M	6	2	3	2	4	1	1	3.0	293
207	F	6	3	5	91	3	4	3	8.8	353
208	M	6	2	4	225	5	13	3	6.2	301
209	M	6	2	5	50	5	20	3	10.5	353
210	M	6	2	4	25	7	10	2	9.5	288
211	M	6	3	4	20	7	15	4	10.2	312
212	M	6	1	4	30	10	40	2	8.1	347
213	F	6	5	2	2	10	21	1	5.7	304

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
214	F	6	3	5	5	0	50	2	6.7	315
215	F	6	2	5	15	3	51	1	10.0	349
216	F	6	3	4	8	5	200	5	10.5	336
218	F	6	4	2	4	4	14	4	6.0	266
219	M	6	1	3	30	10	20	2	8.6	310
220	F	6	2	5	10	4	7	3	5.2	313
221	M	6	2	5	300	3	15	5	10.5	379
222	M	6	3	3	20	1	4	3	6.8	316
223	F	6	5	5	400	4	300	4	10.5	315
224	F	6	4	5	7	15	1	1	8.1	305
225	M	6	3	5	5	7	10	2	8.1	370
226	M	6	4	4	12	7	98	3	7.9	384
227	F	6	5	5	50	12	200	2	9.8	298
228	M	6	2	3	35	3	55	2	10.1	363
229	M	6	1	1	40	15	20	1	3.5	346

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
230	F	6	5	4	150	6	100	3	10.5	311
231	M	6	1	4	25	3	10	2	7.4	302
232	M	6	4	5	100	2	85	1	10.5	303
233	F	6	2	5	15	4	10	2	10.5	322
234	M	6	2	2	35	3	15	2	5.2	292
235	F	6	4	5	30	1	3	3	4.3	339
236	F	6	2	5	4	4	5	2	9.0	309
237	F	6	3	4	10	0	17	3	7.0	303
238	F	6	3	4	17	2	10	5	4.3	307
239	M	6	1	1	25	5	30	3	6.8	285
240	M	6	5	5	100	8	200	2	7.6	363
241	F	6	0	5	60	5	30	3	6.8	275
242	F	6	5	3	105	4	25	4	7.7	296
243	F	6	2	5	45	7	13	4	7.7	374
244	F	6	1	3	20	3	0	2	5.9	341

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
245	M	6	0	1	70	1	10	1	3.0	273
246	F	6	4	2	3	4	100	2	9.6	284
247	F	6	3	3	9	2	4	1	5.1	299
248	F	6	5	5	40	3	53	3	5.4	288
249	M	6	1	5	3	4	4	3	6.8	321
250	F	6	2	5	40	3	3	2	9.0	325
251	M	6	4	5	50	5	50	2	5.9	325
252	M	6	4	1	30	6	10	2	3.1	306
253	M	6	4	4	11	2	0	2	4.0	332
254	F	6	2	5	50	4	50	2	10.5	326
255	M	6	3	3	5	10	40	3	10.5	284
256	F	6	1	4	60	3	3	1	5.9	261
101	M	7	1	4	17	5	1	2	4.1	331
102	F	7	2	3	32	3	15	2	7.6	389
103	M	7	2	4	9	4	5	3	3.2	337

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
104	M	7	1	4	6	3	10	2	7.7	348
105	F	7	0	1	0	0	0	1	3.7	317
106	M	7	2	4	80	11	15	2	7.7	286
107	M	7	1	4	30	6	40	2	7.3	384
108	M	7	1	2	20	2	1	1	3.0	284
109	F	7	2	4	15	10	25	3	7.8	336
110	F	7	0	3	20	1	5	3	6.0	323
111	F	7	2	3	80	5	40	2	9.5	358
112	M	7	0	4	18	6	0	2	8.3	319
113	F	7	3	2	50	3	100	2	8.1	247
114	F	7	2	2	3	3	0	1	5.9	297
115	F	7	4	5	7	4	8	2	5.4	307
116	M	7	3	5	80	10	10	2	6.2	317
117	F	7	1	3	2	1	0	3	6.0	384
118	F	7	5	5	30	6	10	3	4.1	355

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
119	F	7	2	4	25	2	30	3	8.5	347
120	F	7	0	4	15	10	1	2	5.7	321
121	M	7	1	2	3	5	1	2	4.1	349
122	F	7	3	5	250	6	50	2	10.5	326
123	F	7	1	5	100	5	3	3	8.5	307
124	M	7	1	3	50	11	20	2	6.6	312
125	F	7	5	4	150	7	250	4	12.1	299
126	F	7	0	3	5	3	35	3	6.9	277
127	M	7	2	4	10	6	10	2	10.3	357
128	M	7	2	2	5	3	0	0	6.3	297
129	F	7	5	5	75	6	75	2	12.8	322
130	F	7	5	2	25	3	200	3	12.8	249
131	M	7	3	4	50	7	15	2	8.6	322
132	M	7	2	4	70	16	20	3	9.4	342
133	F	7	2	5	20	3	1	2	10.2	304

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
134	M	7	1	3	100	5	10	2	3.0	321
135	M	7	3	4	5	10	20	5	5.9	312
136	M	7	4	5	60	3	3	2	4.0	341
137	F	7	0	3	10	5	0	2	4.4	277
138	M	7	1	1	50	4	30	2	6.3	293
139	M	7	2	3	35	2	30	4	12.8	290
140	M	7	2	2	2	0	7	1	7.5	291
141	F	7	2	3	30	15	35	2	7.8	333
142	F	7	2	5	100	4	15	3	5.3	341
143	M	7	1	3	63	4	3	2	12.8	290
144	M	7	2	2	8	5	4	3	9.6	296
145	M	7	1	3	70	9	10	2	8.1	356
146	M	7	2	1	1	2	12	2	3.0	261
147	M	7	1	5	100	5	50	2	7.1	342
148	F	7	3	5	60	4	14	2	3.0	286

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
149	M	7	3	4	15	3	50	2	6.6	310
150	F	7	2	5	60	5	5	3	6.8	322
151	F	7	4	5	2	0	2	1	4.4	293
152	M	7	2	2	1	0	0	2	7.6	350
01	F	8	2	5	12	50	4	3	8.3	309
02	M	8	1	5	4	15	0	2	8.6	281
03	F	8	1	1	9	3	15	2	11.9	267
04	F	8	3	4	75	3	20	2	12.8	334
05	M	8	2	4	6	20	30	1	9.0	377
06	F	8	2	4	3	2	3	1	11.7	293
07	F	8	2	5	20	5	45	3	10.0	331
08	M	8	1	5	100	10	7	1	12.6	241
09	M	8	1	5	20	5	0	2	12.8	285
10	F	8	2	2	0	3	5	1	10.8	332
11	F	8	1	1	10	10	9	3	8.3	340

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
12	F	8	1	3	54	7	15	3	7.9	294
13	F	8	1	5	28	7	5	2	8.6	278
14	M	8	0	4	20	2	1	2	5.8	287
15	F	8	1	3	6	6	3	3	12.8	304
16	F	8	2	5	30	12	10	2	8.3	309
17	M	8	2	4	15	5	4	2	10.1	342
18	M	8	4	3	45	4	10	5	12.6	337
19	M	8	1	3	7	3	2	2	7.6	316
20	F	8	0	3	1	5	2	2	7.8	256
21	M	8	4	3	60	3	15	2	12.8	296
22	M	8	4	5	42	6	20	1	10.5	296
23	F	8	2	1	0	0	6	1	6.0	299
24	F	8	3	5	150	30	50	5	11.9	325
25	F	8	2	4	25	5	5	2	7.1	289
26	F	8	1	2	1	4	1	2	5.7	281

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
27	F	8	1	4	9	6	5	1	7.2	260
28	M	8	1	4	5	3	2	2	4.9	284
29	M	8	1	4	50	11	10	2	9.9	341
30	F	8	5	5	232	7	100	4	12.8	281
31	F	8	1	3	15	10	8	2	5.8	298
32	F	8	2	5	80	5	8	2	10.7	320
33	M	8	2	3	4	1	3	4	10.3	337
34	F	8	2	4	50	3	10	4	11.3	360
35	M	8	3	4	11	7	12	2	8.1	284
36	M	8	1	3	12	3	0	3	7.2	292
37	F	8	2	5	29	5	26	1	5.9	314
38	F	8	1	4	10	6	2	2	6.6	350
39	F	8	0	5	11	13	3	4	7.2	298
40	F	8	2	1	3	1	2	1	4.8	283
41	M	8	2	4	20	4	10	2	8.6	327

TABLE 51 (continued)

Subject	Sex	Grade	MBRAM	READTO	BKSOWN	MAGA	BKSRD	NWSRD	RDACH	SC
42	M	8	4	3	50	5	75	4	11.5	283
43	F	8	1	5	3	4	2	2	9.8	318
44	F	8	2	4	20	3	5	3	11.1	272
45	F	8	1	2	10	3	5	2	10.0	287
46	M	8	4	3	4	3	30	4	12.8	292
47	M	8	2	4	20	3	5	3	7.2	365
48	F	8	1	4	20	6	2	1	7.6	302
49	M	8	1	3	10	20	10	4	11.0	324
50	F	8	2	5	5	30	10	4	11.5	342
51	M	8	1	3	100	2	500	2	11.7	263
52	F	8	2	3	15	15	40	3	12.8	299
53	M	8	0	3	1	1	1	1	6.6	290
54	M	8	4	5	200	3	60	2	12.8	303
55	M	8	3	3	100	5	30	2	10.1	321
56	M	8	4	4	25	4	63	2	12.6	353

VITA

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