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THE UNIVERSITY OF ALBERTA

THE RELATIONSHIP BETWEEN THREE AFFECTIVE VARIABLES AND STUDENT ACHIEVEMENT

by

LOUIS YANIW

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE

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Abstract

This investigation was designed to study the relationship of student academic self-esteem, self-concept of academic ability and intellectual-academic locus of control with end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science.

The subjects were 716 grade eight students from the Edmonton Public Schools. The instruments used were: The Culture Free Self-Esteem Inventory for Children, The Self-Concept of Ability and School Achievement Scale, and the Intellectual Achievement Responsibility Questionnaire. Academic achievement was determined by teacher-reported final grades in the four "core" subjects.

It was hypothesized that academic self-esteem, self-concept of academic ability, and intellectual-academic locus of control would all correlate significantly in a positive direction with academic achievement. Results showed that all three variables correlated significantly in a positive direction with academic achievement. Thus, the hypotheses of the study were confirmed.

Implications of the findings for teaching and education were discussed and possibilities for further research were suggested.

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CHAPTER I

Overview

During the past two decades there have been many studies relating student self-concept to academic achievement (Brookover, 1962; Bledsoe, 1967; Purkey, 1970; Barnett and Kaiser, 1978; Silvernail, 1981). A review of the literature reveals that investigators in most cases have found a significant relationship between variables of student self-concept and academic performance. This is not surprising as most educators would agree that students who have a "good attitude" about themselves are usually self-motivating and invest considerable effort in completing school related tasks. In contrast, students who view themselves negatively tend to show little patience or perseverance on assignments when difficulties are encountered.

One of the reasons for the continued interest in this area of research is that measures of self-perception have been found to have higher correlations with scholastic performance than do measures of aptitude (Binder, Jones, Strowig, 1970; Jones & Grieneed, 1970). Silvernail (1981) concluded that achievement and self-concept are significantly related and that the relationship cannot be accounted for solely on the basis of intelligence.

Accepting that a positive relationship between student self-concept and academic achievement does exist, caution must be taken before one assumes that either the self-concept determines scholastic achievement or that scholastic achievement shapes the self-concept. As Purkey (1970) stated, "It may be that the relationship between the two is caused by some factors yet to be determined. The best evidence now available suggests that it is a two-way street, that there is a continuous interaction between the self and academic achievement, and that each directly influences the other." (p. 23). As future educational trends emphasize microcomputers, individualized instruction, self-study programs, and option courses, students will be expected to assume more responsibility for their course selection and learning rate. For this reason, research in the area of student perception of academic self and ability must continue and be an area of considerable study.

Many of the studies relating self-concept to academic achievement report positive correlations clustering in the region of 0.30 and 0.40. Most of these studies show the relationship between single self-concept variables (self-esteem, locus of control, or self-concept of academic ability) with student achievement. There is a need for further research that employs a multi-variable design so that relationships between numerous self-concept variables and achievement can be more easily compared. In this way we can continue to enhance and broaden our understanding of self-concept as it relates to academic achievement.

Theoretical Orientation

Self-Concept. Self-concept is an individual's total repertoire of self-descriptive beliefs and behaviors. As Hamachek (1973) defines it, "The self is the sum total of all that a person can call his...it is a person's awareness of all the beliefs, attitudes and opinions which he holds about himself." (p. 262). The self-concept "includes the person's ideas of the kind of person he is, the characteristics he possesses, and his most important and striking traits" (Coopersmith & Feldman, 1974, p. 198).

More simplistically, self-concept can be referenced and understood as self-knowledge. This knowledge may be accurate or inaccurate, extensive or limited, useful or useless. The self-descriptive behavior of most people is quite diverse, usually covert or private, at times changing as the situation or context changes (Muller, Chambliss & Nelson, 1982).

Structure of Self-Concept. Traditionally self-concept has been defined as a highly interrelated set of perceptions that a person holds of himself. Recent research, however, (Piers & Harris, 1964; Muller & Leonetti, 1974; and Shavelson, Bolus & Keesling, 1980) reported that self-concept could be more meaningfully organized and better conceptualized as being subdivided into a complex of relatively independent and discreet areas. Wylie (1961) suggested that self-concept was "metadimensional," thus enabling a person to study one or more aspects separately.

The research of Muller, Chambliss & Wood, 1977; Chambliss, Muller, ulnick & Wood, 1978; and Gose, Wooden & Muller, 1980 reports that direct measures of behavioral or social characteristics of an individual are reliably related only to those measures of self-concept which directly reflect those qualities. For example, academic achievement is reliably related only to measures of academic self-concept. In support of this, Lane & Muller (1977) report that altering self-concept in one area does not result in a corresponding change in other areas of self-concept.

Lecky (1945) observed that some students appeared to react to a self-fulfilling incompetency prophecy. He found that some students made the same number of spelling errors per page regardless of the material's difficulty. Lecky postulated that low academic achievement could be related to the student's conception of himself as unable to learn academic material. Hamachek (1973) later concurred, "Many students have difficulty in school...because they have learned to consider themselves unable to do academic work." (p. 262).

The theoretical position that self-concept is organized into a set of relatively independent areas or factors has significant implications for educational research. Perhaps the most significant and obvious one is that research designed to study the relationship between student self-concept and academic achievement should focus on those aspects of self-concept that are directly relevant to the school setting.

Areas of self-concept selected for further examination in regard to this study are three such variables; academic self-esteem, self-concept of academic ability, and intellectual-academic locus of control.

Academic Self-Esteem. According to Muller, Chambliss & Nelson (1982), "Self-esteem is the subset of self-descriptive behaviors which indicate self-valuation" (p. 2). Self-esteem is a measure of ones self-regard or self-worth. Self-esteem statements may refer to the total self (I like myself) or to a specific self-quality or area (I am happy about the way I read). Academic self-esteem refers to that subset of self-valuation statements that a child holds true for himself as an academic learner. Self-valuative statements are to be distinguished from self-evaluative statements. For example, "I am a good student" is a self-evaluative statement and therefore not an indicator of academic self-esteem. The statement "I dislike myself because I am a poor student" indicates a valuation of self and therefore is an indicator of academic self-esteem.

Self-Concept of Academic Ability. As Brookover, Paterson & Thomas (1962) and Brookover & Thomas (1964) indicate, self-concept of academic ability refers to the self-perceptions a student has regarding his ability to perform on school-related tasks and subjects. It does NOT refer to a student's innate capacity to learn or his ability to learn as measured by standardized measures such as IQ or aptitude tests.

Intellectual-Academic Locus of Control. The essence of locus of control is that each of us locates the controlling elements in our lives either inside ourselves or outside ourselves. The person who believes that his actions produce the reinforcements which follow his efforts locates his control internally. The person who believes that rewards and punishments are meted out to him at the discretion of powerful others or are in the hands of luck or fate is locating his control externally. Locus of control refers to what the individual believes about who is in charge and what he perceives to be the extent of his power to control his life. It does NOT refer to what is actually true or how much power an individual has. Academic locus of control refers to a student's belief of reinforcement responsibility exclusive to intellectual-academic situations.

Purpose of the Study

The purpose of this study was to investigate the correlational relationship of academic self-esteem, self-concept of academic ability, and intellectual-academic locus of control with academic achievement (GPA) of grade eight students in Language Arts, Mathematics, Social Studies, and Science.

Operational Definitions

For the purpose of this study, the following terms are defined as follows:

Academic Self-Esteem. Academic self-esteem is the subset of school-related self-valuation statements as measured by Culture Free Self-Esteem Inventory for Children (Battle, 1981).

Self-Concept of Academic Ability. Self-concept of academic ability is the perceptions a student has regarding his ability to perform on school-related tasks and subjects as measured by the Self-Concept of Ability and School Achievement Scale (Brookover, Paterson & Thomas, 1962).

Intellectual-Academic Locus of Control. Intellectual-academic locus of control is the student's belief of reinforcement responsibility exclusive to intellectual-academic achievement situations as measured by The Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky & Crandall, 1965).

Academic Achievement. Academic achievement is defined as the student's year-end grade point average. Grade point average is calculated on the basis of final grades in the "core" subjects (Language Arts, Mathematics, Social Studies, and Science). Achievement results are submitted in numerical percentage units (0-100%) and later coded by letter grades, A through F, (A = 80-100%, B = 65-79%, C = 50-64%, D = 40-49%, F < 40%).

Hypotheses

This study was concerned with testing the following hypotheses for grade eight students:

Hypothesis 1. Student-reported level of academic self-esteem and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

Hypothesis 2. Student self-concept of academic ability and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

Hypothesis 3. Student-reported level of intellectual-academic locus of control and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

CHAPTER II

Review of Related Literature

This chapter reports the findings of several investigators who have studied the relationship between self-concept and academic achievement. In keeping with the theoretical orientation outlined in the previous chapter, the review of related literature is divided into the following areas:

Self-Concept and Academic Achievement,

Self-Esteem and Academic Achievement,

Self-Concept of Ability and Academic Achievement,

Locus of Control and Academic Achievement.

Self-Concept and Academic Achievement

The area of student self-concept continues to be of interest to educational researchers and writers as it has for the past two decades. Almost all current introductory texts in education and child psychology either allude to or have sections dealing with student self-concept. The majority of self-concept literature is based on psychometric research, that is, on the results of statistical treatment of self-concept measures given to subjects under survey or experimental conditions (Thomas, 1980). Even with such high interest shown there still appears, however, to be a number of problems with definition, measurement and interpretation (Shavelson, Hubner & Stanton, 1976).

A student's perception of himself determines to a large extent his motivation to achieve (Avila & Purkey, 1966; Covington & Berry, 1976; Thomas, 1980). For this reason any research in the area of academic achievement must take into account student self-concept. With the exception of a few, studies investigating the relationship between student self-concept and academic achievement indicate a significant and positive relationship between the two variables (Silvernail, 1981).

Caplin (1966) and Torshen (1971), respectively, found that a positive self-concept was related to higher academic achievement and that low self-concept was related to lower academic achievement.

Durr & Schmatz (1964) studied possible differences between achieving and underachieving elementary school students. Their findings indicated that underachieving students tended to lack self-reliance, a sense of personal worth, and a feeling of belonging. Taylor (1964), in reviewing the literature on personality traits and discrepant achievement, reported research findings which indicated that underachieving students tend to be self-derogatory, have a depressed attitude toward themselves, have feelings of inadequacy, and tend to have strong feelings of inferiority.

In another study, Combs (1964) reported that underachievers demonstrated less effective approaches to problem solving than high achievers and were not as free and adequate with their emotional expression. Combs concluded that low achievers tended to express more negative self feeling than high achievers.

Wattenberg & Clifford (1964) found that an unfavorable self concept and poor achievement was already established for many children before they entered first grade. They reported that measures of self concept and ego strength made at the beginning of kindergarten were more predictive of reading achievement two and one half years later than were measures of intelligence.

In a study of two groups of fourth and fifth grade students differentiated in reading ability but matched for age, sex, ethnic composition and intelligence, Zimmerman & Allebrand (1965) found that "good" readers were more likely to describe themselves as well adjusted, motivated, and striving for success. In contrast, "poor" readers would willingly admit to feelings of discouragement, inadequacy, and nervousness.

Kifer (1975) studied the relationship between academic achievement and the personality characteristics of students in Grades 2, 4, 6, and 8. He concluded that with success on academic tasks came positive regard for self and abilities; with failure came lower levels of regard for self and abilities. This relationship became stronger and more powerful as the success or failure was prolonged.

Farguhan (1968) investigated grade eleven high school students. He found that underachievers and overachievers responded differently to items designed to measure self-concept. Students with high academic productivity tended to self-report high levels of self-concept.

Brookover (1965), in a study that involved over one thousand grade seven students, found that a significant and positive correlation between achievement and self-concept remained intact even after IQ scores were factored out of the data analysis.

Stenner and Katzenmeyer (1976) studied the relationship between self-concept, ability, and school achievement using two ability tests, six achievement tests, and seven scales of the Self Observation Scales (SOS). They found that correlations between the SOS scores and achievement were significantly greater than SOS and IQ.

In a study by Walsh (1956) two groups of low-achieving and high-achieving primary school boys were matched for IQ. Both groups had IQ's over 120. Findings indicated that low achievers had more negative feelings about themselves than did high achievers. Walsh further reported that low achievers differed significantly from high achievers in feelings of being criticized, rejected or isolated; acting defensively through compliance, evasion, or negativism; and being unable to express themselves appropriately in actions and feelings.

Briggs (1967), Johnson (1968), and White & Howard (1973) studied the relationship between nonpromotion and self-concept development. All three studies indicated that both single and multiple nonpromotions had a negative effect on the self-concepts of students. All three studies, however, can be criticized for not having collected self-concept data prior to nonpromotion. Chansky (1964) and Finlayson (1977), who collected their self-concept data prior to nonpromotion, found that nonpromotion did not adversely affect self-concept development.

Finlayson (1977) reported that the differences between the self-concept levels of the groups in the fall of the first year were near significant. By the spring of the second year, however, mean self-concept scores for the two groups were virtually identical.

Several studies cite a significant and positive relationship between self-concept and academic achievement in disadvantaged and in ethnic minority group students (Coleman, 1966; Paschal, 1968; Epps, 1969). In general, disadvantaged and racial minority children do have lower attainment levels due to socioeconomic, cultural and linguistic reasons. Their self-concepts, however, are not significantly different in level from those of more socially favored groups (DeMaissie & Healy, 1970; Zirkel & Moses, 1971; Verma & Bagley, 1975; Louden, 1977). As Burns (1979) contends, the supposed negative self-concepts of disadvantaged and minority group students are no more than the projection of the majority culture's stereotype of them.

Mukherjee (1969) found that achievement oriented individuals described themselves as being ambitious, assertive, capable, confident, determined, enterprising, forceful, far-sighted, gracious, imaginative, dependent and industrious. He found that individuals who put a low premium on achievement described themselves as slow and submissive and described themselves in other negative terms.

Kleinke (1978) summarizes research findings on the self-perceptions of people who are most likely to experience success. He describes successful people as those who have been generally raised on experiences of success. They are encouraged at home as well as in school to set high

standards for themselves. Successful individuals, he contends, learn to interpret success as evidence of their ability. When they do fail, they are more likely than are unsuccessful individuals to attribute their failure to a lack of effort rather than to a lack of ability. As a result, they generally seek out alternative responses that help them overcome the failure at hand.

Self-Esteem and Academic Achievement

Numerous researchers point to the significant relationship between self-esteem and academic achievement. Covington and Beery (1976) indicate that nothing contributes more to a student's sense of esteem than good report card grades.

Coopersmith (1959) reported a positive correlation between high self-esteem and academic success as assessed by the Coopersmith Self-Esteem Inventory, a self-report questionnaire, and the Iowa Achievement Test with fifth and sixth grade students.

Campbell (1967) found a positive correlation between the Coopersmith Self-Esteem Inventory and the achievement of fourth, fifth and sixth grade students.

In studying ten-year-old students, Simon & Simon (1975) examined the relationship between self-esteem and academic achievement. Their results indicated a significant positive relationship between these two variables. This was found to be the case for both sexes.

Battle (1972), in a review of related literature, indicated that underachieving students tended to have less favorable attitudes toward

themselves than achieving students and evaluated their worth lower than their achieving peers. He further suggested that high self-esteem individuals protected themselves from negative self-evaluations, whereas individuals with low self-esteem did not do so nearly as effectively.

Prawat, Grissom & Parish (1979) examined the relationship between self-esteem as measured by the Coopersmith Self-Esteem Inventory and academic achievement motivation as measured by the Hermans Prestatie Motivatie Test, with students in grades three through twelve. Results indicated a significant correlation at each grade level for self-esteem and achievement motivation.

Battle (1982) reports that children who were placed in special education classes because of learning problems self-report higher self-esteem than those with learning problems who remain in regular classes. As a possible explanation for this, Battle submits that smaller special education classes allow for more individual instruction and a greater degree of academic success. Also, smaller class size allows for more positive student-teacher interaction.

Scheirer & Krant (1979) noted that although a number of investigators have found evidence for lower self-esteem among black children than among white children, more recent studies have challenged this conclusion. Rosenberg & Simmons (1973) found that black children's self-esteem was higher than that of white children, not lower. They noted that black children interacted relatively rarely with white people and that self-esteem appeared to be based on comparisons within membership groups. Rosenberg & Simmons concluded that self-esteem impairment

should not be viewed as a prime cause of black children's lower academic achievement. Similar conclusions have been drawn by others (Christmas, 1973 and St. John, 1975).

Self-Concept of Ability and Academic Achievement

A student's academic self-concept is related to the number of success and failure experiences he accumulates in the classroom (Brookover, et al., 1965; Bloom, 1976; Hamachek, 1978). Research studies indicate that there is a significant and positive relationship between a student's perception of his ability and his actual academic achievement (Calsyn & Kenny, 1977; Boersma & Chapman, 1979). In studying college students, Jones & Grieneeks (1970) examined the relationship between measures of self-concept of ability and academic achievement as measured by grade point average (GPA). Their results indicated a positive relationship between self-concept of ability and GPA. They found that self-concept of ability was a stronger predictor of academic achievement than measures of IQ or aptitude. Brookover et al (1962, 1964, 1965, 1967) provide the most extensive research in this area.

In a longitudinal study of 463 students from seventh to tenth grade in an urban school district, Brookover et al (1967) found that change or stability in a student's self-concept of ability was positively associated with change or stability in grade point average. Using seventh grade students in an urban school system, Brookover et al (1964) found that: 1) There was a significant and positive correlation between self-concept of ability and student grade point average (GPA). Even with the effect of IQ factored out self-concept of ability and GPA

remained significantly and positively correlated. The correlation between self-concept of ability and IQ was found to be low (0.17) when the effect of achievement (GPA) was statistically controlled; 2) There were self-concepts of ability that related to specific subject areas (Mathematics, English, Social Studies, Science) that differed from a student's general self-concept of ability. These were found in some subjects to be significantly better predictors of specific subject achievement than general self-concept of ability. Specific self-concept of ability was found to correlate significantly higher for males in Mathematics and Science; for the females the correlation was significantly higher in English and Social Studies. The correlation between specific self-concept and achievement in English was slightly lower for both groups than the correlation between general self-concept of ability and achievement in English; 3) Self-concept of ability was found to be significantly and positively correlated with student perceived evaluations that significant others held of the student. Significant others were defined as mother, father, favorite teacher and best friend. Higher correlations were found between the student's self-concept of his general ability and the images that he perceived each of the four significant others to hold of his general ability than the correlations of the student's self-concept of ability in four specific subjects with the image he perceived the four significant others to hold of his ability in those specific subjects. In an attempt to explain this Brookover et al (1964) indicated ..."that perhaps significant others contribute heavily to an individual's general self-concept of ability, but that the inter-

action between a specific significant other and the student does not specify evaluations in specific areas of the student role" (pp. 276-7).

Thomas (1980) indicates that the essential value of the Brookover et al studies lies in the explanation given to the causal relationship between self-concept of ability and academic achievement. Self-concept of ability is a threshold variable. The Brookover et al research suggests that below a certain level of ability children do not succeed in school no matter what their social class or self-concept of ability is, but if the self-concept of ability is low, then not even very able middle class children do well. Low socio-economic status cannot be a wholly satisfactory explanation of low academic achievement because not all pupils of low social class do poorly in school any more than all middle and upper class children do well. Nash (1976) adds that this is an attractive explanation because it helps to account for cases in which disadvantaged pupils do very well in life. He indicates that the Brookover studies place self-concept of ability as the intervening variable between social class and achievement and places behavior under the control of the individual.

Thomas (1980) further argues that a student with a positive self-concept of ability will want to maintain it. The student will probably regard "the teacher as a significant other and wish to appear favourably in the eyes of the teacher, will want to live up to the expectations of the teacher and, in turn, the reactions of the teacher towards that child are likely to become more favourable. His parents are likely to support the child and he or she will tend to be friendly with similar

children. In contrast, the boy or girl with a poor view of his or her school abilities will tend to perform poorly in the classroom. There seem to be two possibilities: the child may be ashamed of his low ability and might even despair; or he may want to protect himself from further disparagement by maintaining his poor academic self-concept (it could maintain him in his friendships, etc.) ignoring his teacher's opinions and reinforcing his teacher's perception of him as not trying very hard at school work. His parents may care little about, or be hostile towards, school and he will tend to make friends with other low achievers like himself." (p. 73).

Locus of Control and Academic Achievement

Numerous studies demonstrate a relationship between locus of control and school achievement. The research suggests that a student's behavior in academic achievement situations is influenced by his perceived locus of control (Bartel, 1971; Bottinelli & Weizmann, 1973; Kifer, 1975).

Locus of control (LOC) is most commonly defined as the self-expectancy that reinforcing events or outcomes are controlled either internally or externally. Internal control refers to the belief that one's own behavior or ability determines such an outcome. External control is defined as the belief that events are caused by factors beyond the individual's control such as luck, task difficulty or powerful others (Stipek & Weis[illegible], 1981).

Rotter (1975) makes a noteworthy elaboration to this definition. He believes that a student's expectation that specific behavior or abil-

ity will bring about a particular reinforcement is not the only predictor of the occurrence of that behavior. The "value" that the student places on the expected reinforcement is also important. If, for example, a student does not place much value on higher grades, he probably won't study very hard for a test even though he believes that higher grades are contingent on studying. Rotter also believes that "the relative importance of generalized expectancy goes up as the situation is more novel or ambiguous and goes down as the individual's experiences in that situation increases" (p. 57). Rotter supports this by pointing out that the predictive power of generalized reinforcement expectancies is less successful with college students than with school-aged children.

Various questionnaire measures of LOC have been developed over the years (Phares, 1955; Bailer & Cramwell, 1961; Battle & Rotter, 1963; Crandall et al, 1965; Rotter, 1966; Clifford & Cleary, 1972; Norwicki & Strickland, 1973; Stipek, 1980). Questionnaire measures differ in age appropriateness, format, and situations described by the items. While most measures include items concerning many different areas of reinforcement, there are some that concentrate only on academic achievement situations (Crandall, Katkovsky & Crandall, 1965; Clifford & Cleary, 1972; Gruen, Korte & Baum, 1974; and Stipek, 1980).

The Intellectual Achievement Responsibility (IAR) Questionnaire (Crandall, Katkovsky & Crandall, 1965) is the most widely used questionnaire in studies concerning LOC and academic achievement. Its design is aimed at assessing student's (Grades 3 to 12) beliefs in reinforcement responsibility exclusive to intellectual-academic achievement situ-

ations. Rotter (1975) claims that a LOC measure that is narrowly defined for specific generalized expectancy situations allows for greater prediction of behavior in that situation than does a broad generalized expectancy measure.

Questionnaire measures concerning only academic achievement situations have all yielded positive relationships between internality and achievement (Buck & Austin, 1971; Clifford & Cleary, 1972; Bottinelli & Weizmann, 1973; Kennelly & Kinley, 1975; Barnett & Kaiser, 1978). Only one study could be found that compared a school based measure to a general measure of LOC. In this study, Powell (1971) compared the IAR (school measure) to the Children's Locus of Control Scale (Bailey & Cromwell, 1961) and found that the latter, a general LOC measure was more highly correlated to GPA than the IAR. Further research is certainly needed in this area.

Research results reveal some evidence that locus of control questionnaire scores predict student grades more strongly than they predict standardized achievement test scores (McGhee & Crandall, 1968; Schulty & Pomerantz, 1976; Gordon, 1977; Barnett & Kaiser, 1978). McGhee and Crandall (1968) offer as a possible explanation that student grades reflect such factors as effort, persistence, and initiative, all of which figure directly in student responses to measures of LOC. Standardized achievement tests measure students' acquired skills and therefore only reflect student initiative indirectly.

The research by Nowicki and his colleagues (1973, 1974) claimed that the relationship between internality and school achievement was

stronger for boys than it was for girls. This was found to be true only when the Children's Nowicki-Strickland Internal External Control Scale (CNS-IE) (Nowicki & Strickland, 1973), a general measure of LOC, was used. Stipek & Weisz (1981) have commented that this strange relationship might be explained by a mediating variable: social desirability. They contend that, using the CNS-IE, Nowicki and Walker (1973) "found a significant relationship between internal locus of control and school achievement for girls low in social desirability, but not for girls high in social desirability. The girls who were high in social desirability might have been responding to the question in the locus of control scale according to their perceptions of the social acceptability of the response rather than according to their "true" beliefs. If this was the case, the scale was not measuring locus of control, and these girls' scores on the locus of control scale should not be expected to correlate with achievement." (p. 116).

Several researchers have looked at the relationship between LOC and achievement with IQ factored out (Lessing, 1961; Shaw & Uhl, 1971; Messer, 1972; Clifford & Cleary, 1972; Gruen, Korte & Baum, 1974; Ollendick & Ollendick, 1976). All, with the exception of Ollendick & Ollendick (1976), have found that a significant relationship between LOC and achievement remained even after IQ was controlled.

Summary

Overall, the research indicates that a persistent and significant relationship does exist between self-concept and academic achievement. A change in one seems to be associated with a change in the other. How-

ever, none of the studies demonstrate causality in either direction. The research does appear to indicate a strong reciprocal relationship and suggests that efforts to enhance either self-concept or academic achievement would be of value to the student. Self-esteem, self-concept ability and locus of control are all metadimensions of self-concept. The research indicates that low-achieving students tend to view themselves in less favorable ways than high-achieving students. A student's perception of his ability in specific subject areas is cited as being a better indicator of success in that subject area than the student's perception of his overall scholastic ability. In regard to responsibility for academic success and failure, research appears to indicate that high-achieving students tend to accept more internal responsibility for their successes. Some research suggests that locus of control scores are better predictors of student grades than they are of standardized achievement scores.

Most of the research reviewed utilizes a single instrument design in an attempt to investigate the relationship between general or specific self-concept with academic achievement. In order to strengthen our understanding of the many dimensions of academic self with school achievement, future research must employ a multi-dimensional design using a variety of school-related scales.

CHAPTER III

Design and Methodology

The Sample

The subjects in this study consisted of 716 students in grade eight from the Edmonton Public Schools. The 351 boys and 365 girls were chosen from 35 grade eight classes in 9 schools. The sample was selected from the school district's six areas that had a total grade eight population of 4290 students. The sample was considered to be statistically representative of grade eight students. All students present in selected classes on both testing days served as subjects. The subjects were administered an affective instrument battery which assessed academic self-esteem, intellectual-academic locus of control, and self-concept of academic ability.

Procedure

Three weeks prior to the assessment, principals of all participating schools were visited. During this session, assessment rationale and procedures were explained. The administrators viewed and handled the assessment materials as well as questioned the researcher regarding any concerns they had. One week prior to the assessment period, the schools received copies of the test instruments as well as directions as to procedural format. The author's telephone number was included so that school personnel could readily contact the author should any difficulties, questions, and/or concerns arise.

The testing period was defined as the third school week in the month of May. During this week, administrators were to select two separate testing periods of sixty-minute duration. Due to school differences in period length, it was felt that this format would minimize administration difficulties in so far as scheduling was concerned. During the first assessment period, both the Culture Free Self-Esteem Inventory for Children and the Intellectual Achievement Responsibility Questionnaire were administered to students by their regular class teacher. During the second assessment period the Self-Concept of Ability Inventory and School Achievement Scale were administered to students by their regular class teacher. Following initial instructions and reading of directions by their teacher, students were to read each question silently and respond to each appropriately. Following the assessment period, test booklets and response forms were packaged and sent back to the author for machine scoring.

Student end-of-year achievement results (GPA) were sent to the author at the end of June following the issuing of final report card grades. Achievement results in the four core subject areas of Mathematics, Language Arts, Social Studies, and Science were later correlated with results of the self-esteem, self-concept of ability, and locus of control data.

Instrumentation Used

Culture Free Self-Esteem Inventory for Children (CF-SEI). The instrument used for measuring student self-esteem in this study was the Battle (1981) Culture Free Self-Esteem Inventory for Children, Form A

(Appendix A). The CF-SEI Form A is a 60-item scale. Ten items are a lie scale that measure defensiveness. The other 50 items measure an individual's perception in the areas of general self, peers, parents, and school. The subject is requested to check "yes" or "no" to each item statement, half of which reflect high self-esteem and the other half reflecting low self-esteem. The items are placed in random order. The self-esteem score is the total number of statements checked "yes" indicating high self-esteem.

The items in the inventory were selected from Gough and Heilbrun's (1965) Adjective Check List, Coopersmiths (1967) Self-Esteem Scale, plus others developed by the author of the scale. This scale is presented in full with instructions in Battle (1981).

Test-retest correlations for boys and girls in grades seven, eight, and nine were: boys, 0.93; girls, 0.89; and total, 0.91. Test-retest correlations for grade seven subjects were 0.96; grade eight, 0.88; and grade nine, 0.88. Thus, the instrument possesses acceptable temporal reliability.

The Self-Concept of Ability and School Achievement Scale (SCA). The Brookover (1962) Self-Concept of Ability and School Achievement Scale (Appendix B) was slightly adapted for the purpose of this study to facilitate administrative ease. The changes were as follows:

a) School subjects, "Arithmetic and English" were replaced by "Mathematics and Language Arts," to concur with local usage;

b) The SCA five-point subject grading scale A, B, C, D, E was replaced by A, B, C, D, F which is currently used in the Edmonton Public Schools;

c) As the scale was to be machine-scored versus hand-scored, directions such as "Circle the X under the heading which best answers the question" was replaced with "Choose the statement which best answers each question and fill in the lettered space on your answer sheet that matches your choice."

The original form is presented in full with instructions in Brookover (1962).

The adapted SCA was comprised of 86 items intended to measure student perception in nine main areas: General Self-Concept of Ability; Self-Concept of Ability in Mathematics; Student Perception of Importance of Mathematics; Self-Concept of Ability in Language Arts; Student Perception of Importance of Language Arts; Self-Concept of Ability in Social Studies; Student Perception of Importance of Social Studies; Self-Concept of Ability in Science; and Student Perception of Importance of Science. In addition, students were asked to rate their present perceived school ability compared to other classmates, the importance of grades, their academic potential, and their perceived future academic achievement.

The format of the SCA is of a multiple choice design. Each item choice is given a numerical weighting: A = 5; B = 4; C = 3; D = 3; and E = 1. The higher the self-concept, the higher the value of the item choice.

e.g. 1. How do you rate yourself in school ability compared with your close friends?

A. I am the best

B. I am above average

C. I am average

D. I am below average

D. I am the poorest

Brookover (1962) reports that the items form a Guttman scale with a reproducibility coefficient of 0.95 for males and 0.96 for females. Brookover also reports the scale to have an internal reliability of 0.82 for males and 0.77 for females.

The Intellectual Achievement Responsibility Questionnaire (IAR). The Crandall, Katkovsky & Crandall (1965) Intellectual Achievement Responsibility Questionnaire (Appendix C) was used in this study to measure student locus of control. The aim of the IAR is to measure beliefs in internal versus external reinforcement responsibility in intellectual-academic achievement situations. The IAR is different from other locus of control scales in that it limits the source of external control to those persons who most often come in face to face contact with the student, namely, his parents, teachers, and peers. Other locus of control scales include a variety of external sources and agents such as luck, fate, or impersonal social forces.

The IAR is composed of 34 statements. Half the statements describe positive achievement experiences and the other half describe negative achievement experiences that routinely occur in a student's daily life.

Each statement is followed by two responses the student can choose from. One response states that the event was caused by the student and the alternative response states that the event occurred because of the behavior of someone else in the student's immediate environment.

The IAR not only gives a total I (internal or self) responsibility score, but separate subscores for beliefs in internal responsibility for successes (I + score) and for failures I - score).

Crandall, Katkovsky, & Crandall (1965) report test-retest correlations after a two month interval of 0.69 for total I, 0.66 for I+ and 0.74 for I- with students in grades 3, 4, and 5. Test-retest correlations for the same period but with grade 9 students were reported to be 0.65 for total I, 0.47 for I+ and 0.69 for I-. These correlations were all significant at the .001 level. Split-half reliabilities were also computed for the two subscales. The correlations were reported to be 0.54 for I+ and 0.57 for I-.

In a review of the literature on locus of control, Stipek and Weisz (1981) reported that the IAR is the most widely used questionnaire measure with the choice of attribution format.

CHAPTER IV

Results

This chapter presents the results of the study. Pearson product-moment correlational analysis was used to determine the relationship existing among the variables defined in previous chapters. The tables in this chapter summarize the analyzed results for each of the hypotheses.

Raw score means and standard deviations are tabulated for self-esteem, self-concept of ability, locus of control, and end-of-year grades results in Table 1.

The data, obtained by the procedures outlined earlier yielded the following results:

Hypothesis 1

Student-reported level of academic self-esteem and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

The results as summarized in Tables 2 to 6 show the relationship between student self-esteem and academic achievement. Table 6 shows the Pearson product-moment correlations of self-esteem with academic achievement. As can be seen, there is a significant and positive correlation of academic self-esteem with academic achievement in

Mathematics, Language Arts, Social Studies, and Science. Thus the above hypothesis is confirmed.

The results of Tables 3 to 6 show that at every increasing level of achievement (A-F) there is an increase in mean level of academic self-esteem.

TABLE 1

Means and Standard Deviations of Student Self-Esteem, Self-Concept of Ability, Locus of Control, and End-of-Year Grade Point Average

Source	Mean	SD
Culture Free Self Esteem Inventory for Children		
Total Self-Esteem	35.72	8.14
Academic Self-Esteem	5.85	2.57
Social Self-Esteem	7.22	2.10
Parental Self-Esteem	7.37	2.59
General Self-Esteem	5.20	3.56
Self Concept of Ability and School Achievement Scale		
General Self-Concept of Ability	53.64	8.13
Self-Concept of Ability in Mathematics	29.52	6.50
Self-Concept of Ability in Language Arts	29.03	5.25
Self-Concept of Ability in Social Studies	28.69	5.81
Self-Concept of Ability in Science	28.62	6.27
Intellectual Achievement Responsibility Questionaire		
Responsibility for Positive Events I+	12.84	2.68
Responsibility for Negative Events I-	11.29	2.57
Total Hours of Control I	24.11	4.27
Year-End Final Grade		
Mathematics GPA	62.51	18.00
Language Arts GPA	62.66	13.81
Social Studies GPA	61.04	15.93
Science GPA	61.07	15.18

Table 2

Pearson Product-Moment Correlations of Self-Esteem with Academic Achievement

Self-Esteem	Year End Final Grades			
	Math (N=716)	Lang. Arts (N=716)	Social Studies (N=716)	Science (N=716)
Total Self-Esteem	.33***	.38***	.37***	.38***
Academic Self-Esteem	.57***	.59***	.61***	.60***
Social Self-Esteem	.07*	.11**	.06*	.05
Parental Self-Esteem	.19***	.21***	.23***	.25***
General Self-Esteem	.17***	.21***	.20***	.22***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3

Self-Esteem Means for Five Achievement Level Groups in Mathematics

Self-Esteem	Total Possible Raw Score	Year End Final Grades Mathematics				
		A 80-100% (N=161)	B 65-79% (N=187)	C 50-64% (N=200)	D 40-49% (N= 93)	F <40% (N= 75)
Total Self-Esteem	50	38.98	37.62	34.13	33.46	31.03
Academic Self-Esteem	10	7.72	6.63	5.26	4.35	3.36
Social Self-Esteem	10	7.38	7.38	7.01	7.18	7.07
Parental Self-Esteem	10	7.94	7.66	7.18	7.15	6.23
General Self-Esteem	20	15.87	15.81	14.67	14.77	14.24

Table 4

Self-Esteem Means for Five Achievement Level Groups in Language Arts

Self-Esteem	Total Possible Raw Score	Year End Final Grades Language Arts				
		A 80-100% (N= 89)	B 65-79% (N=248)	C 50-64% (N=256)	D 40-49% (N= 89)	F <40% (N= 34)
Total Self-Esteem	50	39.73	37.79	34.86	30.95	29.09
Academic Self-Esteem	10	8.35	6.74	5.16	3.83	3.41
Social Self-Esteem	10	7.52	7.33	7.23	6.73	6.82
Parental Self-Esteem	10	7.97	7.76	7.32	6.44	5.85
General Self-Esteem	20	15.76	15.89	15.07	13.96	13.00

Table 5

Self-Esteem Means for Five Achievement Level Groups in Social Studies

Self-Esteem	Total Possible Raw Score	Year End Final Grades Social Studies				
		A 80-100% (N=104)	B 65-79% (N=215)	C 50-64% (N=212)	D 40-49% (N=125)	F <40% (N= 60)
Total Self-Esteem	50	40.00	38.03	35.05	31.38	31.45
Academic Self-Esteem	10	8.20	7.03	5.26	4.03	3.48
Social Self-Esteem	10	7.47	7.34	7.07	7.13	7.08
Parental Self-Esteem	10	8.35	7.59	7.50	6.38	6.52
General Self-Esteem	20	15.86	15.94	15.18	13.85	14.33

Table 6

Self-Esteem Means for Five Achievement Level Groups in Science

Self-Esteem	Total Possible Raw Score	Year End Final Grades Science				
		A 80-100% (N=110)	B 65-79% (N=187)	C 50-64% (N=261)	D 40-49% (N=105)	F <40% (N= 53)
Total Self-Esteem	50	39.94	37.89	34.92	32.21	30.23
Academic Self-Esteem	10	8.22	6.80	5.39	4.16	3.24
Social Self-Esteem	10	7.37	7.37	7.04	7.22	7.26
Parental Self-Esteem	10	8.24	7.69	7.34	6.84	5.64
General Self-Esteem	20	15.99	15.92	15.09	13.97	14.08

Hypothesis 2

Student self-concept of academic ability and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

The results as summarized in Tables 7 to 11 show the relationship between student self-concept of academic ability and academic achievement. Table 7 shows the Pearson product-moment correlations of self-concept of academic ability with academic achievement. As can be seen, both general and subject specific self-concept of ability correlate significantly and positively with academic achievement in Mathematics, Language Arts, Social Studies, and Science. Thus the above hypothesis is confirmed.

The results of Tables 8 to 11 show that at every increasing level of achievement (A-F) there is an increase in mean level of general and subject-specific self-concept of ability.

Table 7

Pearson Product-Moment Correlations of Self-Concept of Ability with Academic Achievement

Self-Concept of Ability	Year End Final Grades			
	Math (N=716)	Lang. Arts (N=716)	Social Studies (N=716)	Science (N=716)
General Self-Concept of Ability Total	.56***	.56***	.60***	.59***
Self-Concept of Ability in Mathematics	.76***			
Self-Concept of Ability in Language Arts		.61***		
Self-Concept of Ability in Social Studies			.67***	
Self-Concept of Ability in Science				.59***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 8

Self-Concept of Ability Means for Five Achievement Level Groups in Mathematics

Self-Concept of Ability	Total Possible Raw Score	Year End Final Grades Mathematics				
		A 80-100% (N=161)	B 65-79% (N=187)	C 50-64% (N=200)	D 40-49% (N= 93)	F <40% (N= 75)
General Self-Concept of Ability Total	73	60.33	55.30	51.30	50.75	45.68
Self-Concept of Ability in Mathematics	40	36.21	31.75	27.46	24.80	21.00

Table 9

Self-Concept of Ability Means for Five Achievement Level Groups in Language Arts

Self-Concept of Ability	Total Possible Raw Score	Year End Final Grades Language Arts A 80-100% (N= 89)	B 65-79% (N=248)	C 50-64% (N=256)	D 40-49% (N= 89)	F <40% (N= 34)
General Self-Concept of Ability Total	73	61.82	56.23	51.27	48.17	45.50
Self-Concept of Ability in Language Arts	40	34.35	30.96	27.46	24.95	23.38

Table 10

Self-Concept of Ability Means for Five Achievement Level Groups in Social Studies

Self-Concept of Ability	Total Possible Raw Score	Year End Final Grades Social Studies				
		A 80-100% (N=104)	B 65-79% (N=215)	C 50-64% (N=212)	D 40-49% (N=125)	F <40% (N= 60)
General Self-Concept of Ability Total	73	61.77	56.76	51.77	48.40	45.93
Self-Concept of Ability in Social Studies	40	34.69	31.41	27.28	24.41	22.43

Table 11

Self-Concept of Ability Means for Five Achievement Level Groups in Science

Self-Concept of Ability	Total Possible Raw Score	Year End Final Grades Science				
		A 80-100% (N=110)	B 65-79% (N=187)	C 50-64% (N=261)	D 40-49% (N=105)	F <40% (N= 53)
General Self-Concept of Ability Total	73	61.73	56.17	52.13	48.83	44.91
Self-Concept of Ability in Science	40	34.53	31.05	27.33	24.43	22.51

Hypothesis 3

Student-reported level of intellectual-academic locus of control and end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science will correlate with one another significantly in a positive direction.

The results as summarized in Tables 12 to 16 show the relationship between student locus of control and academic achievement.

The results of Tables 13 to 16 show that at every increasing level of achievement (A-F) there is not always an increase in mean level of student internal locus of control. The data however, do appear to move in the predicted direction.

Table 12 shows the Pearson product-moment correlations of locus of control with academic achievement. Inspection of the results indicates generally significant but low positive correlations. Thus, the above hypothesis was confirmed.

Table 12

Pearson Product-Moment Correlations of Locus of Control with Academic Achievement

Locus of Control	Year End Final Grades			
	Math (N=716)	Lang. Arts (N=716)	Social Studies (N=716)	Science (N=716)
Responsibility for Positive Events (I+)	.18**	.20***	.21***	.17***
Responsibility for Negative Events (I-)	.03	.04	.07*	.04
Total Locus of Control (I)	.12***	.15***	.17***	.13***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 13

Locus of Control Means for Five Achievement Level Groups in Mathematics

Locus of Control	Total Possible Raw Score	Year End Final Grades Mathematics A 80-100% (N=161)	B 65-79% (N=187)	C 50-64% (N=200)	D 40-49% (N= 93)	F <40% (N= 75)
Responsibility for Positive Events (I+)	17	13.27	13.23	12.68	12.43	11.85
Responsibility for Negative Events (I-)	17	11.11	11.74	11.14	11.14	11.12
Total Locus of Control (I)	34	24.32	24.97	23.81	23.57	22.97

Table 14

Locus of Control Means for Five Achievement Level Groups in Language Arts

Locus of Control	Total Possible Raw Score	Year End Final Grades Language Arts				
		A 80-100% (N= 89)	B 65-79% (N=248)	C 50-64% (N=256)	D 40-49% (N= 89)	F <40% (N= 34)
Responsibility for Positive Events (I+)	17	13.28	13.34	12.78	12.02	10.59
Responsibility for Negative Events (I-)	17	10.85	11.55	11.40	10.99	10.41
Total Locus of Control (I)	34	24.13	24.86	24.18	22.98	21.00

Table 15

Locus of Control Means for Five Achievement Level Groups in Social Studies

Locus of Control	Total Possible Raw Score	Year End Final Grades Social Studies A 80-100% (N=104)	B 65-79% (N=215)	C 50-64% (N=212)	D 40-49% (N=125)	F <40% (N= 60)
Responsibility for Positive Events (I+)	17	13.26	13.45	12.80	12.22	11.23
Responsibility for Negative Events (I-)	17	11.11	11.74	11.14	11.14	11.12
Total Locus of Control (I)	34	24.38	25.09	24.12	23.28	21.85

Table 16

Locus of Control Means for Five Achievement Level Groups in Science

Locus of Control	Total Possible Raw Score	Year End Final Grades Science				
		A 80-100% (N=110)	B 65-79% (N=187)	C 50-64% (N=261)	D 40-49% (N=105)	F <40% (N= 53)
Responsibility for Positive Events (I+)	17	13.28	13.15	12.82	12.61	11.38
Responsibility for Negative Events (I-)	17	11.22	11.57	11.17	11.35	10.89
Total Locus of Control (I)	34	24.50	24.67	23.99	23.93	22.26

CHAPTER V

Summary and Discussion

Summary

The purpose of this study was to investigate the relationship of self-esteem, self-concept of ability, and locus of control with academic achievement in Mathematics, Language Arts, Social Studies, and Science.

It was hypothesized that student-reported levels of academic self-esteem, self-concept of academic ability, and intellectual-academic locus of control would all correlate in a significant and positive direction with end-of-year achievement results in Mathematics, Language Arts, Social Studies, and Science.

Correlational analysis of results revealed that the hypotheses were confirmed when academic self-esteem and self-concept of academic ability were compared with academic achievement. These results were found to be significant at the .001 level of confidence. At every increasing level of achievement (A thru F) in all four subject areas, there was found to be an increase in the mean reported level of academic self-esteem as well as general and subject specific self-concept of academic ability.

Correlational analysis of intellectual-academic locus of control with academic achievement was found to be significant but generally

low. Thus, the hypothesis concerned with intellectual-academic locus of control and academic achievement was confirmed.

Results, however, did not indicate a consistent increase in mean levels of intellectual-academic locus of control with standard increases in academic achievement (A-F) in all subject areas.

Discussion

In this investigation, academic self-esteem and self-concept of academic ability were found to interact strongly with academic achievement. In comparison, intellectual-academic locus of control did not interact nearly as intensely.

One may postulate many reasons for this discrepancy. Closer investigation of results indicates that high-achieving students took slightly more internal responsibility for positive results than did low-achieving students. However, in accepting responsibility for negative events, both groups reported approximately the same level of responsibility. As a result, the overall correlation between locus of control and achievement was found to be low.

One explanation for this might be that low-achieving students are prepared to accept responsibility for their poor academic performance but are not intrinsically motivated to corrective change. In contrast, high-achieving students may also accept responsibility for their failing but may, in addition, assume responsibility for corrective change.

The Intellectual Achievement Responsibility Questionnaire (IAR) itself must be considered when analysing the above results. One would expect a measure of locus of control that concentrates only on school

situations (e.g. IAR) to correlate more highly with academic achievement than a measure that included items concerning many different areas of reinforcement.

Stipek & Weisz (1981), in a review of related literature, found only one study that compared a school-based measure of locus of control to a general measure of locus of control. In that study, the general measure correlated more highly with GPA than did the school-based measure (Powell, 1971). There is indeed a need for further research in this area.

As others indicate (Combs, 1964; Taylor, 1964), underachieving students tend to view themselves as being inferior and less acceptable to peers and adults. They tend to be self-derogatory and are prone to isolate themselves from others (Durr & Schmatz, 1964; Walsh, 1956). Although the findings in this study do not dispute the above, they do suggest that these attitudes and behaviors may be more situation specific than they are general. For example, the mean difference of academic self-esteem for "A" level students versus "F" level students in mathematics is 4.36. In comparison, the mean difference of social or peer-related self-esteem scores for these two achievement level groups is only 0.31. Thus it appears that the achievement level of a student has a lot to do with his academic sense of self-worth but does not affect his self-regard in peer-related situations to the same extent.

Of further noteworthy value is the sensitivity of the Culture Free Self-Esteem Inventory for Children (CF-SEI) as a measure of academic self-esteem. Results in Tables 3 to 6 show that the CF-SEI was able to

record change in academic self-esteem at every achievement level in all four subjects. In the writers option, this instrument may be viewed as a valid measure of academic self-esteem.

With the exception of I- all three variables (academic self-esteem, self-concept of academic ability and intellectual-academic locus of control) were found to correlate significantly with academic achievement. Self-concept of academic ability was found to be the best predictor of academic achievement as it yielded higher correlations than the other two. In all four subject areas, subject-specific self-concept of ability was found to correlate higher with subject achievement than general self-concept of academic ability.

The significance of self-concept of academic ability is quite simple. If a student feels he has the ability to do well in a subject area, he probably will do well; if the student doesn't feel he has the ability to do well in a subject area, he probably won't do well. As Brookover (1962) and Thomas (1980) state, this can be expected even with the effect of IQ factored out.

Conclusion

On the surface, education often appears to be purely within the cognitive domain. Most serious educators, however, recognize that student performance is the result of many variables, some of which are of a non-cognitive character.

What happens to a child's self-concept once he starts attending school? Research findings indicate that for some students the effects are positive, but for others the effects are negative (Silvernail,

1981). The educational process plays a very instrumental role in the development of a student's sense of self. As Combs and Snygg (1959) stated almost a quarter of a century ago, "the self-concept is a function of experience, what happens to students during their time spent in the educational system must be of vital importance in the development of the phenomenal self. Probably no other agency in our society outside the family has a more profound effect on the development of the individual's concept of self" (pg. 277).

Helping students to develop a positive self-concept toward learning should certainly be a primary objective in all schools. A positive academic self-concept allows the student to more effectively deal with his learning environment by facilitating learning confidence and providing a basis for constructive decision making and self-enhancing change.

Most educators would like to believe that everything they do with students has a positive effect on self-concept development. Unfortunately, this belief cannot be supported by empirical findings. How then, can teachers and other school personnel help students to develop strong positive self-concepts? The answers to this question are of course well beyond the purpose of this study. However, the author recommends Developing Positive Student Self-Concept (Silvernail, 1981); Educational Implications of Self-Concept Theory (LaBenne & Greene, 1969); Building Positive Self-Concepts (Felker, 1974); Expectation and Pupil Performance (Pidgeon, 1970); Enhancing Self-Concept (Muller, Chambliss & Nelson, 1982); Self-Worth and School Learning (Covington & Beery, 1976) and Enhancing Self-Esteem and Achievement (Battle, 1982)

for those readers wishing practical ideas in this area.

Although this study does not prove that affective variables influence academic achievement, it does lend itself to the encouraging and optimistic belief that special attempts to enhance academic self-concept may also increase the student's level of performance. Overall, the results of this study and those mentioned earlier, show a persistent and significant relationship between numerous self-concept variables and academic achievement. Students with enhanced self-concepts are able to make positive, realistic, and clear appraisals of their ability and therefore perform higher on academic tasks than students with more uncertain and negative feelings about themselves as learners.

Educational Implications and Suggestions for Further Research

1. Much of the correlational research linking self-concept and achievement, while statistically significant, tends to cluster in the region of 0.30 and 0.40. A possible reason for this may lie in the continual use of general self-concept scales. Items in such scales are often very wide ranging, covering many areas that are unrelated to educational settings and academic endeavors. In order to more accurately assess how a student feels about himself as a learner, we need to use a self-concept measure with items related to the academic domain (Shavelson, Hubner & Stanton, 1976; Wylie, 1979; Boersma & Chapman, 1979). In the writer's opinion, this is why the academic self-esteem subscale of CF-SEI (Battle 1981), and the SCA scale (Brookover, Thomas & Patterson, 1962) provide correlations with achievement ranging from 0.56 to 0.76. It is recommended that future research look to the development

of specific school-based measures of self-concept and statistically compare these to existing measures that use a more general format.

2. While correlational studies are worthwhile and provide useful information, they do not determine causality. Does a positive self-concept provide the student with the attitudes and behaviors necessary to secure success on academic tasks, or does academic success nourish and provide the positive feelings and beliefs a student comes to hold of himself as a learner? A third alternative is that both these relationships are true and that each interacts with the other in a reciprocal fashion. Recent attempts to isolate which variable is independent have resulted in inconsistent findings. Future research should continue in this area to secure a knowledge base that will allow us to accurately determine if the relationship is a reciprocal or unidirectional one.

3. Although the purpose and focus of the present study was on variables of student self-concept and academic achievement, it would be interesting to study what effect variables of teachers' self-concept played in the results obtained. Most would agree that the self-concept level of the teacher is important in that effective teaching to some extent relies on the objective and realistic appreciation of the feelings and behaviour of students. Trowbridge (1973) found that teachers with lower self-concept talk more and allow their pupils to talk less. She also found that lower self-concept teachers spent almost twice as much time on routine matters as did teachers with high self-concepts. Spaulding (1964), noted a positive relationship between student self-concept and teacher behavior characterized by a high degree of private

or semi-private communication with students, overt facilitation of task-oriented behavior, concern for divergent student responses, attention to individual student needs, and the use of control techniques involving humor - and a relatively low degree of negative evaluation statements, domination through threat, harsh task master behavior and of grim domination.

Unfortunately, as Thomas (1981) points out, empirical studies in this area are the exception. It is hoped that future investigations will continue in this area but with the use of more stringent research design.

4. The school setting provides the first major opportunity outside the home for a child to test his abilities, experience success, and thereby enhance his feelings of self-worth. Yet as Covington & Berry (1976) note "no single thing contributes as much to the student's sense of esteem as does a good report card, nor shatters it so profoundly as do poor grades ... to be able to be worthy, but to do poorly seems evidence of inability and thus reason to despair of one's worth," (pp. 6-7). Those who excel and achieve are winners; winners are admired and respected. This North American belief is first cast in the home then hardened to conviction in many of our schools.

In North America, there has been no major change in grading practices since 1918 when Daniel Starch first introduced the "normal curve" that led to the familiar ABCDF system of grading. Perhaps the most potent area of education in terms of its effect on students is grading and evaluation. Far too often in school staff rooms one can hear

teachers say boastfully, "I don't give many A's at all," or "Johnny's an above average student but I gave him a C because he doesn't try as hard as he should." Such comments make one wonder what is really being evaluated. Indeed it can be argued that students come to feel as good or as bad as the grades they receive. For example, most students who receive an "A" feel excellent, students who receive an "F" feel like a failure. Certainly the area of grades, standards, and student evaluation and their effect on student self-worth need continued research.

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APPENDICES

APPENDIX A

CULTURE FREE SELF-ESTEEM INVENTORY FOR CHILDREN

by

James Battle, Ph.D.

Directions

Please mark your answer sheet for each of the 60 statements in the following way. If the statement describes how you usually feel, mark in "A" for YES on your answer sheet. If the statement does not describe how you usually feel, mark "B" for NO on your answer sheet. Please mark either A or B for each of the sixty statements. There are no "right" or "wrong" answers.

1.	I spend a lot of time daydreaming.	A.	Yes	B.	No
2.	Boys and girls like to play with me.	A.	Yes	B.	No
3.	I like to spend most of my time along.	A.	Yes	B.	No
4.	I am satisfied with my school work.	A.	Yes	B.	No
5.	I have lots of fun with my mother.	A.	Yes	B.	No
6.	My parents never get angry at me.	A.	Yes	B.	No
7.	I wish I were younger.	A.	Yes	B.	No
8.	I only have a few friends.	A.	Yes	B.	No
9.	I usually quit when my school work is too hard.	A.	Yes	B.	No
10.	I have lots of fun with my father.	A.	Yes	B.	No
11.	I am happy, most of the time.	A.	Yes	B.	No
12.	I am never shy.	A.	Yes	B.	No
13.	I have very little trust in myself.	A.	Yes	B.	No
14.	Most boys and girls play games better than I do.	A.	Yes	B.	No
15.	I like being a boy/girl.	A.	Yes	B.	No
16.	I am doing as well in school as I would like to.	A.	Yes	B.	No
17.	I have lots of fun with both of my parents.	A.	Yes	B.	No
18.	I usually fail when I try to do important things.	A.	Yes	B.	No
19.	I have never taken anything that didn't belong to me.	A.	Yes	B.	No
20.	I often feel ashamed of myself.	A.	Yes	B.	No
21.	Boys and girls usually choose me to be the leader.	A.	Yes	B.	No
22.	I usually can take care of myself.	A.	Yes	B.	No
23.	I am a failure at school.	A.	Yes	B.	No
24.	I find it hard to make up my mind and stick to it.	A.	Yes	B.	No
25.	My parents make me feel that I am not good enough.	A.	Yes	B.	No

26.	I never get angry.	A.	Yes	B.	No
27.	I often feel that I am no good at all.	A.	Yes	B.	No
28.	I have many friends about my own age.	A.	Yes	B.	No
29.	Most boys and girls are smarter than I am.	A.	Yes	B.	No
30.	Most boys and girls are better than I am.	A.	Yes	B.	No
31.	My parents dislike me because I am not good enough.	A.	Yes	B.	No
32.	I like everyone I know.	A.	Yes	B.	No
33.	Children pick on my very often.	A.	Yes	B.	No
34.	I like to play with children younger than I am.	A.	Yes	B.	No
35.	I like to be called on by my teacher to answer questions.	A.	Yes	B.	No
36.	I would change many things about myself if I could.	A.	Yes	B.	No
37.	There are many times when I would like to run away from home.	A.	Yes	B.	No
38.	I am as happy as most boys and girls.	A.	Yes	B.	No
39.	I can do things as well as other boys and girls.	A.	Yes	B.	No
40.	I often feel like quitting school.	A.	Yes	B.	No
41.	I worry a lot.	A.	Yes	B.	No
42.	My parents understand how I feel.	A.	Yes	B.	No
43.	When I have something to say, I usually say it.	A.	Yes	B.	No
44.	I never worry about anything.	A.	Yes	B.	No
45.	I am as nice looking as most boys and girls.	A.	Yes	B.	No
46.	Other boys and girls are mean to me.	A.	Yes	B.	No
47.	I know myself very well.	A.	Yes	B.	No
48.	I am doing the best school work that I can.	A.	Yes	B.	No
49.	People can depend on me to keep my promises.	A.	Yes	B.	No
50.	My parents think I am a failure.	A.	Yes	B.	No
51.	I always tell the truth.	A.	Yes	B.	No
52.	I need more friends.	A.	Yes	B.	No
53.	I always know what to say to people.	A.	Yes	B.	No
54.	My teacher feels that I am not good enough.	A.	Yes	B.	No
55.	My parents love me.	A.	Yes	B.	No
56.	I never do anything wrong.	A.	Yes	B.	No
57.	Most boys and girls are stronger than I am.	A.	Yes	B.	No
58.	I am proud of my school work.	A.	Yes	B.	No
59.	I often get upset at home.	A.	Yes	B.	No
60.	I am never unhappy.	A.	Yes	B.	No

APPENDIX B

SELF-CONCEPT OF ABILITY AND SCHOOL ACHIEVEMENT SCALE
BY
BROOKOVER, PATERSON, THOMAS

Directions

Please read the following questions carefully. Choose the statement which best answers each question and fill in the lettered space on your answer sheet that matches your choice. Please mark only one answer for each question. There are no "right" or "wrong" answers.

1. How do you rate yourself in school ability compared with your close friends?

   A. I am the best.
   B. I am above average.
   C. I am average.
   D. I am below average.
   E. I am the poorest.

2. How do you rate yourself in school ability compared with those in your class at school?

   A. I am among the best.
   B. I am above average.
   C. I am average.
   D. I am below average.
   E. I am among the poorest.

3. Where do you think you would rank in your class in high school?

   A. among the best
   B. above average
   C. average
   D. below average
   E. among the poorest

4. Do you think you have the ability to complete college?

   A. yes, definitely
   B. yes, probably
   C. not sure either way
   D. probably not
   E. no

5. Where do you think you would rank in your class in college?

   A. among the best
   B. above average
   C. average
   D. below average
   E. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

   A. very likely
   B. somewhat likely
   C. not sure either way
   D. unlikely
   E. most likely

7. Forget for a moment how others grade your work. In your own opinion, how good do you think your work is?

   A. my work is excellent
   B. my work is good
   C. my work is average
   D. my work is below average
   E. my work is much below average

8. What kind of grades do you think you are capable of getting?

   A. mostly A's
   B. mostly B's
   C. mostly C's
   D. mostly D's
   E. mostly F's

9. How important to you are the grades you get in school?

   A. very important
   B. important
   C. not particulary important
   D. grades don't matter to me at all

10. How important is it to you to be high in your class?

    A. very important
    B. important
    C. not particulary important
    D. doesn't bother me at all

11. How do you feel if you don't do as well in school as you know you can?

    A. feel very badly
    B. feel badly
    C. don't feel particulary badly
    D. doesn't bother me at all

12. How important is it to you to do better than others in school?

    A. very important
    B. important
    C. not particulary important
    D. doesn't bother me at all

13. Which statement best describes you?

    A. I like to get better grades than everyone else.
    B. I like to get better grades than almost everyone else.
    C. I like to get about the same grades as everyone else.
    D. I don't care about any particular grades.

14. In your schoolwork, do you try to do better than others?

    A. all of the time
    B. most of the time
    C. occasionally
    D. never

15. How important to you are <u>good</u> grades compared with other aspects of school?

    A. good grades are the most important thing in school
    B. good grades are among the important things in school
    C. some other things in school are more important than good grades
    D. good grades don't matter to me at all

16. What kind of grades do you try to get in school?

    A. mostly A's
    B. mostly B's
    C. mostly C's
    D. mostly D's
    E. don't try to get any particular grades

Go On To The Next Page

Now we would like you to again answer some of the same questions, but this time about four different subjects which you are now taking or may take in the future.

On your answer sheet, mark the letter of the heading which best answers the question. There are no right or wrong answers.

HOW DO YOU RATE YOUR ABILITY IN THE FOLLOWING SCHOOL SUBJECTS COMPARED WITH YOUR CLOSE FRIENDS?

	A I am the best	B I am above average	C I am average	D I am below average	E I am the poorest
17. Mathematics	A	B	C	D	E
18. Language Arts	A	B	C	D	E
19. Social Studies	A	B	C	D	E
20. Science	A	B	C	D	E

HOW DO YOU RATE YOUR ABILITY IN THE FOLLOWING SCHOOL SUBJECTS COMPARED WITH THOSE IN YOUR CLASS AT SCHOOL?

	A I am the best	B I am above average	C I am average	D I am below average	E I am the poorest
21. Mathematics	A	B	C	D	E
22. Language Arts	A	B	C	D	E
23. Social Studies	A	B	C	D	E
24. Science	A	B	C	D	E

WHERE DO YOU THINK YOU WOULD RANK IN YOUR HIGH SCHOOL GRADUATING CLASS IN THE FOLLOWING SUBJECTS?

	A Among the Best	B Above Average	C Average	D Below Average	E Among the poorest
25. Mathematics	A	B	C	D	E
26. English	A	B	C	D	E
27. Social Studies	A	B	C	D	E
28. Science	A	B	C	D	E

DO YOU THINK YOU HAVE THE ABILITY TO DO COLLEGE WORK IN THE FOLLOWING SUBJECTS?

	A Yes, definitely	B Yes, probably	C Not sure either way	D Probably not	E No
29. Mathematics	A	B	C	D	E
30. English	A	B	C	D	E
31. Social Studies	A	B	C	D	E
32. Science	A	B	C	D	E

WHERE DO YOU THINK YOU WOULD RANK IN YOUR COLLEGE CLASS IN THE FOLLOWING SUBJECTS?

	A Among the Best	B Above Average	C Average	D Below Average	E Among the poorest
33. Mathematics	A	B	C	D	E
34. English	A	B	C	D	E
35. Social Studies	A	B	C	D	E
36. Science	A	B	C	D	E

HOW LIKELY DO YOU THINK IT IS THAT YOU COULD COMPLETE ADVANCED WORK BEYOND COLLEGE IN THE FOLLOWING SUBJECTS?

	A Very likely	B Somewhat likely	C Not sure either way	D Unlikely Average	E Most likely
37. Mathematics	A	B	C	D	E
38. English	A	B	C	D	E
39. Social Studies	A	B	C	D	E
40. Science	A	B	C	D	E

FORGET FOR A MOMENT HOW OTHERS GRADE YOUR WORK. IN YOUR OPINION, HOW GOOD DO YOU THINK YOUR WORK IS IN THE FOLLOWING SUBJECTS?

	A My work is excellent	B My work is good	C My work is average	D My work is below average	E My work is much below average
41. Mathematics	A	B	C	D	E
42. Language Arts	A	B	C	D	E
43. Social Studies	A	B	C	D	E
44. Science	A	B	C	D	E

WHATS KIND OF GRADES DO YOU THINK YOU ARE CAPABLE OF GETTING IN THE FOLLOWING SUBJECTS?

	A Mostly A's	B Mostly B's	C Mostly C's	D Mostly D's	E Mostly F's
45. Mathematics	A	B	C	D	E
46. Language Arts	A	B	C	D	E
47. Social Studies	A	B	C	D	E
48. Science	A	B	C	D	E

HOW IMPORTANT TO YOU ARE THE GRADES YOU [illegible] THE FOLLOWING SCHOOL SUBJECTS?

	A Very important	B Important		D Grades dont' matter to me at all
			particularly important	
49. Mathematics	A	B	C	D
50. Language Arts	A	B	C	D
51. Social Studies	A	B	C	D
52. Science	A	B	C	D

HOW [illegible]T IS IT TO YOU TO BE HIGH IN YOUR THE FOLLOWING SCHOOL SUBJECTS?

	A Very important	B Important	C Not particularly important	D It doesn't matter to me at all
53. Mathematics	A	B	C	D
54. Language Arts	A	B	C	D
55. Social Studies	A	B	C	D
56. Science	A	B	C	D

HOW DO YOU FEEL IF YOU DON'T DO AS [illegible] AS YOU KNOW YOU CAN IN THE FOLLOWING SCHOOL [illegible]JECTS?

	A Feel very badly	B Feel badly	C Don't feel particularly badly	D Doesn't bother me at all
57. Mathematics	A	B	C	D
58. Language Arts	A	B	C	D
59. Social Studies	A	B	C	D
60. Science	A	B	C	D

HOW IMPORTANT IS IT TO YOU TO DO BETTER THAN OTHERS IN THE FOLLOWING SCHOOL SUBJECTS?

	A Very important	B Important	C Not particularly important	D Doesn't matter to me at all
61. Mathematics	A	B	C	D
62. Language Arts	A	B	C	D
63. Social Studies	A	B	C	D
64. Science	A	B	C	

WHICH STATEMENT BEST DESCRIBES YOUR FEELING ABOUT THE FOLLOWING SCHOOL SUBJECTS?

	A I like to get better grades than everyone else	B I like to get better grades than almost everyone else	C I like to get about the same grade as everyone else	D I don't care about any particular grade
65. Mathematics	A	B	C	D
66. Language Arts	A	B	C	D
67. Social Studies	A	B	C	D
68. Science	A	B	C	D

IN THE FOLLOWING SCHOOL SUBJECTS, DO YOU TRY TO DO BETTER THAN OTHERS?

	A All the time	B Most of time	C Occasionally	D Never
69. Mathematics	A	B	C	D
70. Language Arts	A	B	C	D
71. Social Studies	A	B	C	D
72. Science	A	B	C	D

WHAT GRADES DO YOU TRY TO GET IN THE FOLLOWING SCHOOL SUBJECTS?

	A Mostly A's	B Mostly B's	C Mostly C's	D Mostly D's
73. Mathematics	A	B	C	D
74. Language Arts	A	B	C	D
75. Social Studies	A	B	C	D
76. Science	A	B	C	D

INDICATE HOW WELL YOU LIKE THE FOLLOWING SUBJECTS.

	A I like best	B I like second best	C I like third best	D I like least
77. Mathematics	A	B	C	D
78. Language Arts	A	B	C	D
79. Social Studies	A	B	C	D
80. Science	A	B	C	D

HOW IMPORTANT ARE THE GRADES YOU GET IN THE FOLLOWING SUBJECTS?

	A Subject where grade is most important	B Subject where grade is second in importance	C Subject where grade is third in importance	D Subject where grades is of least importance
81. Mathematics	A	B	C	D
82. Language Arts	A	B	C	D
83. Social Studies	A	B	C	D
84. Science	A	B	C	D

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85. If you were free to go as far as you wanted to in school, how far would you like to go?

A. I'd like to quit school right now.
B. I'd like to go to high school for a while.
C. I'd like to graduate from high school.
D. I'd like to go to technical school, eg. NAIT.
E. I'd like to go to University.

86. Sometimes what we would like to do isn't the same as what we expect to do. How far in school do you expect you really will go?

A. I think I really will quit school as soon as I can.
B. I think I really will go to high school for a while.
C. I think I really will graduate from high school.
D. I think I really will go to technical school, eg. NAIT.
E. I think I really will go to University.

APPENDIX C

IAR SCALE
by
CRANDALL, KATKOVSKY, AND CRANDALL

Directions

Following are 34 questions. Read each question carefully and decide which answer best describes what happens to you or how you feel. Fill in "A" on your answer sheet if answer A best describes how you usually feel. Fill in "B" on your answer sheet if answer B describes how you usually fee. Please mark only one answer for each question. There are no "right" or "wrong" answers.

1. If a teacher passes you to the next grade, would it probably be

   A. because she liked you.
   B. because of the work you did

2. When you do well on a test at school, is it more likely to be

   A. because you studied for it
   B. because the test was especially easy

3. When you have trouble understanding something in school, is it usually

   A. because the teacher didn't explain it clearly
   B. because you didn't listen carefully

4. When you read a story and can't remember much of it, is it usually

   A. because the story wasn't well written
   B. because you weren't interested in the story

5. Suppose your parents say you are doing well in school. Is this likely to happen

   A. because your school work is good
   B. because they are in good mood

6. Suppose you did better than usual in a subject at school. Would it probably happen

   A. because you tried harder
   B. because someone helped you

7. When you lose at a game of cards - checkers, does it usually happen

   A. because the other player is good at the game
   B. because you don't play well

8. Suppose a person doesn't think you are very bright or clever.

   A. You can make him change his mind if you try to.
   B. There are some people who will think you're not very bright no matter what you do.

9. If you solve a puzzle, quickly is it

   A. because it wasn't a very hard puzzle
   B. because you worked on it carefully

10. If a boy or girl tells you that you are dumb, is it more likely that they say that

   A. because they are mad at you
   B. because what you did wasn't very bright

11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen

   A. because you didn't work hard enough
   B. because you needed some help, and other people didn't give it to you

12. When you learn something quickly in school, is it usually

   A. because you paid close attention
   B. because the teacher explained it clearly

13. If a teacher says to you, "Your work is fine," is it

   A. something teachers usually say to encourage pupils
   B. because you did a good job

14. When you find it hard to work arithmetic or math problems at school, is it

   A. because you didn't study well enough before you tried them
   B. because the teacher gave problems that were too hard

15. When you forget something you heard in class, is it

    A. because the teacher didn't explain it very well
    B. because you didn't try very hard to remember

16. Suppose you weren't sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen

    A. because she wasn't as particular as usual
    B. because you gave the best answer you could think of

17. When you read a story and remember most of it, is it usually

    A. because you were interested in the story
    B. because the story was well written

18. If your parents tell you you're acting silly and not thinking clearly. Is it more likely to be

    A. because of something you did
    B. because they happed to be feeling cranky

19. When you don't do well on a test at school, is it

    A. because the test was especially hard
    B. because you didn't study for it

20. When you win at a game of cards or checkers, does it happen

    A. because you play well
    B. because the other person doesn't play well

21. If people think you're bright and clever, is it

    A. because they happen to like you
    B. because you usually act that way

22. If a teacher didn't pass you to the next grade, would it probably be

    A. because she "had it in for you"
    B. because your school work wasn't good enough

23. Suppose you don't do as well as usual in a school subject. Would this probably happen

    A. because you weren't as careful as usual
    B. because somebody bothered you and kept you from working

24. If a boy or girl tells you that you are bright, is it usually

    A. because you thought up a good idea
    B. because they like you

25. Suppose you became a famous teacher, scientist or doctor. Do you think this would happen

    A. because other people helped you when you needed it
    B. because you worked hard

26. Suppose your parents say you aren't doing well in your school work. Is this likely to happen more

    A. because your work isn't very good
    B. because they are feeling cranky

27. Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen

    A. because he wasn't able to understand how to play
    B. because you couldn't explain it well

28. When you find it easy to work arithmetic or math problems at school, is it usually

    A. because the teacher gave you especially easy problem
    B. because you studied your book well before you tried them

29. When you remember something you heard in class, is it usually

    A. because you tried hard to remember
    B. because the teacher explained it well

30. If you can't work a puzzle, is it more likely to happen

    A. because you are not especially good at working puzzles
    B. because the instructions weren't written clearly enough

31. If your parents tell you that you are bright and clever, is it more likely

    A. because they are feeling good
    B. because of something you did

32. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often

    A. because you explained it well
    B. because he was able to understand it

33. Suppose you're not sure about the answer to a question your teacher asks you and the answer you give turns out to be wrong. Is it likely to happen

    A. because she was more particular than usual
    B. because you answered too quickly

34. If a teacher says to you, "Try to do better," would it be

    A. because this is something she might say to get pupils to try harder
    B. because your work wasn't as good as usual