

**An Exploration of Self-Concept, Parent Education, Parent and Student Attitudes
towards School, Study Habits and Achievement of Junior High Students**

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ABSTRACT

The purpose of the present study was to examine the relationship between self-concept and academic self-concept, parent education, parent and student attitudes towards school, study habits and student achievement in a group of junior high students. This study investigated whether student achievement scores varied significantly by ratings for various aspects of self-concept as well as global self-concept, parent educational levels and gender. As well, the study examined how student and parental attitudes towards school correlated with each other. A third aspect of the study was an exploration of the best predictors for achievement in math, English and overall average academic.

Sixty-nine grade six students participated in this study. Student responses to the Battle (2002) Culture Free Self-Esteem Inventory and researcher developed scales to examine student attitudes towards school and study habits were collected. Student achievement scores on English and math tests for the last two terms of grade six were obtained from the cumulative records of the students. A parental attitudes towards school questionnaire developed by the researcher and a demographic data form designed to obtain selected background information including parental education attainment were completed by consenting parents and returned to the school along with consent forms for their children to participate in the study.

ANOVA, t-test, correlational and regression analysis were performed on the data and produced the following major findings. Student groups with above-average Global and Academic Self-Concept achieved significantly higher scores in English and math than groups with lower Global and Academic Self-Concept ratings. However, gender had little or no effect on the achievement levels. Relative to the correlations among the variables, Global Self-Concept and Academic Self-Concept ranked among the top three with a positive correlation with the achievement variables. A surprising finding was that parent attitudes towards school was negatively correlated with parent education. Of all variables entered for predicting the achievement levels of the students, Academic Self-Concept turned out to be the strongest predictor for English and also the only predictor for the math and the average academic achievement scores. Parent education was the second strongest in predicting the English scores. All the other variables including Global Self-Concept played little or no part in predicting the performances on any of the achievement measures.

These results were discussed in light of the literature, their implications for further research and for practice.

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CHAPTER I

INTRODUCTION & BACKGROUND LITERATURE

Overview

Over the years, educational researchers have been striving to find factors that are related to students' academic achievement. Of those important factors correlated with achievement level of students, self-concept turned out to be a very significant non-cognitive variable for explaining a certain amount of the variance in academic achievement (Mayo, Ethel & Gibbs, 1997). Also, many studies indicated that self-concept was correlated with the achievement levels of students at a significant level. As a result, considerable efforts have been made in an attempt to upgrade the self-concept of students based on the assumption that if the self-concept is improved, the academic record will also be improved (Beane, Lipka & Ludewig, 1980).

However, results from research became less consistent when it came to the correlation between self-concept and academic achievement. Some studies even showed that students with learning disabilities have unrealistic perceptions of their ability to accomplish academic tasks; the over-rating of their competence in achieving academic success did not match with their low achievement records in school subjects (Meltzer, Roditi, Houser & Perlman, 1998). Since researchers in recent years have tended to view self-concept as a hierarchical, multi-dimensional psychological

construct (Harter 1990, Hattie & Marsh, 1996), some studies support the idea that academic self-concept is a more reliable predictor of students' achievement level than global self-concept (Lyon, 1993). In other words, learning disabled students may possess average or even above-average overall self-concept but score below-average points in specific areas of general self-concept, such as academic.

Academic achievement is highly susceptible to a variety of cognitive and non-cognitive variables (Finn & Rock, 1997; Ford, 1996; Slate, Jones & Dawson, 1993). Since research found that parental education level, parental attitudes towards school, student attitudes towards school and study habits impact on the final achievement level of students, it is reasonable to conduct a multiple-regression analysis to produce a list of independent variables that may affect the academic achievement and to rank them in ascending order in terms of their influence.

This study obtained quantitative data from responses to a group of standardized and self-developed questionnaires that aim to measure all variables included on 5-point rating scales. The study also investigates the correlations among these variables and the portion of the variance in academic achievement that can be accounted for by various independent variables.

Research Rationale

This research study may have important theoretical and practical educational

applications. Since it has been shown by previous research that there is a moderate, yet significant correlation between global self-concept and academic achievement, the results of this correlational study may provide new insight on global and academic self-concept and how they are correlated with students' achievement level. This study will also help examine whether the academic dimension of self-concept can serve as a better predictor of academic achievement. The research will continue testing the theories that view self-concept on a multi-dimensional continuum.

Since some other student variables and parent variables are included, the study will help identify a number of factors such as parent attitudes towards school that might help explain part of the variance in students' academic achievement. The study should produce a rank order of all these variables involved in the research in the hope of identifying the most significant factors responsible for most of the variance in students' level of achievement. A somewhat unique focus for the current study is the inclusion of parental attitudes.

The purpose of this study is to identify variables correlated with students' achievement level. This research study will also generate a list of significant predictors ranked in descending order of predictive ability that explain most of the variance in students' level of achievement.

Self-Concept

Self-concept is a psychological construct which refers to the cluster of ideas and attitudes an individual holds about himself or herself. It involves all the ways he/she uses to describe himself/herself, and his evaluation of himself/herself (Drew, Watkins, 1997). According to Hattie (1998), self-concept is a set of implicit beliefs that individuals have about themselves. From Maccoby's point of view (1980), self-concept is manifested outwardly by our behaviours and personal traits and inwardly by how we feel about ourselves and the world around us. As a well known theoretical concept in the field of educational research, self-concept has many synonyms such as self-esteem, self-worth and self-efficacy and sometimes has been replaced by those related psychological terms.

However, caution should be taken when identifying self-concept with these related concepts that are defined differently in research. Such concepts are not exactly interchangeable terms for self-concept. For example, self-esteem is regarded as an affective aspect of self-concept, which is defined as a broad perception of ourselves (Shavelson & Bolus, 1982). Self-esteem, as explained by Rosenberg (1985), is a positive or a negative attitude of an individual towards himself. Moreover, William James, (1842-1910) who is deemed to one of the first persons to use this term, referred to self-esteem as an evaluation of one's worth with positive or negative valence. In addition, self-esteem is considered to be one component of self-concept as a whole (Hattie & Marsh, 1996; Bracken, 1996); it is a person's evaluation of his

perceived qualities in himself, for instance, children with high self-esteem view their perceived characteristics in a positive light. However, children with low self-esteem respond negatively to their self-perceived qualities (Shaffer, 1988).

From a humanistic point of view, self-esteem is defined as the need to pursue high self-evaluation and evaluation from others. More specifically, these desires can be broken down into the need for competence and reputation, respectively. Satisfaction of these needs causes self-respect and failure to fulfill them generates a sense of worthlessness. Self-worth has been used as an equivalent of self-esteem in research literature. Another related concept, self-efficacy, addresses a person's belief or self-confidence about one's capabilities of performing specific tasks (Bandura, 1997). However, self-concept is viewed as a description of one's own perceived self together with an evaluative part of self-worth; therefore, self-concept can be closely tied with how a culture or social structure values the attributes on which the individual bases those feelings of self-worth. In contrast, self-efficacy beliefs are not as tightly constricted by cultural factors (Pajares & Schunk, 2001).

Self-efficacy and self-concept differ in the source of an individual's judgment. Pajares and Schunk, (2001) argued that self-concept has its origin in self and social comparisons. For example, through external comparison with the performance levels of others as well as one's own performance in related areas, a student may come to believe that he is a good math student because he scores higher than most of his

classmates in math, or he does a better job in math than language arts. However, a student's self-efficacy is mainly concerned with his special ability to complete a specific task and therefore comes into being with little reference to comparative information (Marsh, Walker, & Debus, 1991). In all, self-concept comes down to a psychological entity that not only includes a person's feeling and evaluation categories, but more importantly, a broad descriptive category of himself (Burns, 1979).

To avoid confusion caused by different views of self-concept, the present study defines self-concept as the ways an individual evaluates his or her personal attributes and behaviours, a relatively stable multi-dimensional psychological construct learned by interaction with significant others and by social comparisons and comparisons with norms .

Although the mainstream definitions of self-concept varied slightly from one another, numerous research studies on the correlation between self-concept and academic achievement in the past have indicated that there is a moderately strong, yet significant correlation between these two variables. About 55 years ago, Prescott Lecky (1945) was one of the first to indicate that students' achievement might be related to the perceptions they had of themselves as learners. Self-concept research conducted over the past few decades has concluded that there is a fairly strong relationship between students' academic achievement and their self-perceived ability

(Byrne, 1974; Wylie, 1976; Marsh, 1990a; Hamachek, 1992). A multiple institution study done with first year college students identified some non-cognitive variables (e.g. self-rating of overall academic ability, drive to achieve, and self-confidence in intellectual ability) as significant predictors of grade performance in an introductory psychology course (House, 1995). In this research, nearly all non-cognitive variables examined were significantly correlated with students' grade performance in the course. Gerardi (1990) and House (1994) also reported that non-cognitive variables, including self-perception of competence, were significant predictive variables of the overall achievement performance of college students. Moreover, based on the findings of previous psychological studies, it is believed that an accurate, positive perception of self plays a vital role in individual students' academic success (Gwin, 1990). Yet the relation between the two variables is far from conclusive and sometimes strong counterevidence came out against the commonly accepted correlational relationships (Gresham, Lane & MacMillan, 2000). However, when researchers confined their research to a specific domain of general self-concept, namely the academic part, they found strengthened correlations. So what exactly does academic self-concept describe?

According to House (1997), a student's academic self can be deconstructed into his self-ratings of overall academic ability, mathematical ability, writing ability, self-confidence in intellectual ability and drive to achieve. Also, six patterns associated with academic self-concept have been identified; they are level of aspiration, anxiety,

academic interest and satisfaction, leadership and initiative, and identification versus alienation (Michael, Smith & Michael, 1989). So far as we know, academic self-concept is more closely associated with academic achievement than is overall self-concept if self-concept measures are related to specific content areas of academic study (Shavelson & Bolus, 1982; Marsh, Byrne, & Shavelson, 1988; Marsh 1990b).

In the recent literature, researchers have been inclined to view self-concept as a multi-dimensional continuum composed of many facets: physical ability, body image, academic competence, general school, peer relation, just to name a few (Marsh, 1988; Harter 1990; Hattie & Marsh, 1996; Bracken, 1996). Research showed that for academically underachieving students, self-concept was correlated positively with participation in extracurricular activities, (Pearson's $r = .29$, $p < .05$) but not with their academic achievement as measured by their academic percentile. However, for academically gifted students, self-concept was related to their academic ranking, gender and participation in extracurricular activities ($r = .30$, $-.37$, and $.41$, respectively; $p < .05$) (Garzarelli, Everhart & Lester, 1993). These findings supported the multidimensional, hierarchical construct of self-concept, as these two distinct learner groups in the study assigned vastly different weights to academic self-concept. To sum up, it is widely accepted that everybody constructs an overall perception of self in addition to specific aspects of self-concept in their areas of concern.

The academic component of overall self-concept was a more accurate predictor of

future achievement than was social self-concept (Anderman, Griesinger & Anderman, 1999). Levitt, Guacci-Franco and Levitt (1994) concluded that academic self-concept is a significant predictor of the achievement of early adolescent students. In addition, meta-analytic research (Hansford & Hattie, 1982) revealed the important relationship between academic achievement and self-concept. They found a mean correlation of 0.4 between achievement in a specific subject and students' self-concept in that subject. Lyon (1993) also found that the relationship between academic self-concept and academic achievement is stronger than the relationship between overall self-concept and academic achievement. Research completed with adolescents also indicated present and future academic self-concept is more closely correlated to GPA than their present and future social self-concepts. Both present and future academic self-concept predicts positive changes in their year-end GPAs, whereas present and future social self-concepts have little to do with changes in GPAs (Anderman, Griesinger & Anderman, 1999). Moreover, academic self-concept has been found to predict the overall school performance and achievement test scores of elementary and secondary school students (Lyon, 1993; Lyon & MacDonald, 1990; Mintz & Muller, 1977). Bloom (1976) also ranked academic self-concept the strongest non-cognitive variable of all for predicting academic achievement. In a study focused on the perception of competence in students with learning disabilities, researchers (Meltzer, Roditi, Houser & Perlman, 1998) found that students with learning disabilities frequently view themselves as capable and effective and often have overestimations of their academic competence compared to their teachers' perceptions. However, when

investigations have been targeted specifically on academic self-concept, findings related to students with learning disabilities have been less consistent. This result made it clear that students with learning disabilities obtain a higher average score on a overall self-concept scale than that on an academic self-concept scale, a specific domain of overall Self-Concept. That is to say, below-average level of achievement by students with learning disabilities does not match with average or even above-average overall self-perception, but is related well to the self-rating of academic competence. Therefore, academic self-concept might serve as a better predictive variable of academic achievement than overall self-concept does.

By way of a summary, overall self-concept was correlated with academic achievement. However, self-concept may be more highly correlated with academic achievement and may present as a more accurate predictor of academic achievement compared with overall self-concept.

Internal/External Frame of Reference Model

Many research studies showed that self-concept is strongly correlated to academic achievement. Research indicated a significant positive relationship between a student self-concept and his/her academic performance (Purkey, 1970). Generally, high achieving students have higher self-concept than that of their average achieving and under achieving peers. But how does a high achiever view his or her weakest subject? Some researchers argued that academic self-concept is subject-related, for example, a

high score on a math test indicates high self-concept about math ability (Marsh, 1989). Some even believed that academic self-concept is strictly subject specific. For example, in the Internal/External Frame of Reference Model, math and verbal self-concept are almost uncorrelated even though significant correlations ranging from .5 to .8 have been found between math achievement and verbal achievement (Marsh, 1986). How can such a discrepancy be explained? The I/E Model offered a good solution to this. It stated that a student's self-concept in one particular academic subject is formed with reference to two criteria for comparison. The first criterion is called the external frame of reference in which the student compares his/her self-perceived performance level in a particular subject with performances of other students in the same academic subject as well as with established external measures for levels of academic achievement. The second criterion is known as the internal frame of reference by which the student judges his/her performance in a particular subject of study in comparison with his/her performances in other academic subjects. In the past, researchers have shown that there are significant positive paths from verbal achievement to verbal self-concept and from math achievement to math self-concept (Tay, 1994). They also showed math and verbal self-concept are highly correlated with their respective academic areas (Marsh & Shavelson, 1985). According to the first criterion, if the student thinks he/she has a competitive edge over other students or his/her performance in this particular subject exceeds concrete standards for intermediate level of achievement, the person will perceive himself/herself as highly competent in that subject.

However, when the internal frame of reference is used to evaluate one's performance in a school subject, the student may give a low ipsative score to this relatively "weak" subject as compared with his outstanding ipsative scores in the other school subjects. The ipsative score represents the relative strength of the construct compared with others in the set, rather than the absolute score (Baron, 1996). As a result, the sum of a set of ipsative scores for the student would come to a constant. Therefore, the means of other scores is in negative correlation with an increasing score. The I/E model successfully explained why high achievement scores on subject tests would not necessarily lead to corresponding subject specific high self-concepts. For example, a student may be assumed to have a low self-concept in verbal ability and math if their math and verbal performance ranks below average, or his or her performance in both subjects did not meet the standards for the expected average level of achievement. This is a typical process of external comparison. However, if the internal comparison process dominates during the formation of his subject related self-concepts, the person might develop an average self-concept or above-average self-concept in math if the student considers math to be their strongest subject compared with other subjects. Furthermore, even if some students in the person's class maintain above-average records in math, it is possible that they have a below-average self-concept in math if math turns out to be their weakest point in academic study (Marsh & Hau, 2004).

Results from the research done on this topic indicated verbal and math self-concept were not correlated, but verbal achievement was highly correlated with math

achievement (Tay, 1994). As we can see, high verbal achievement usually suggests comparatively high proficiency in verbal ability, which makes it easy for students to comprehend math problems stated in natural language. Therefore, it's possible that students with more advanced skills in the verbal domain stand a better chance of abstracting a mathematical model from an original text description. However, external comparison of the performance level in one specific school subject against the standard for the average level of achievement would not always dominate during the formation of the subject specific self-concept. For example, if the internal reference of frame takes a lead in building one's self-concept in each particular subject area, a higher achiever in math may have average or even below-average self-concept in math if the student considers himself to be a superb learner of verbal skills. As implied, a negative correlation has been found between verbal achievement and math self-concept; however, an interesting question arose when the two appeared to be moderately correlated (Tay, 1994). The reason for this finding may be that no highly significant negative correlation was found if a learner's achievement levels in both subjects were roughly equal with the result that a high verbal achievement may not bring about relatively low self-concept in math if the learner compares his math scores with verbal scores. Furthermore, if the researcher happened to obtain too many samples of this kind in the group due to chance variation, the assumed negative correlations would be greatly compromised. The other possible explanation could be if the learners' verbal achievement is far below the expected achievement level, which substantially damages his/her opportunity of advancing to the higher level of study

because the average score of all subjects is not competitive. Low verbal achievement may serve as a crucial factor responsible for his/her low math self-concept. Regrettably, the selection procedure, standard deviation and standard error of the samples included in this study are unavailable; therefore, it raises a serious question about the objectivity of the sampling design.

Low Achievement, Under Achievement and Self-Concept

Self-concept has been one of the most researched topics in educational psychology during recent years, partly because it is a key component of the basic psychological construct, and partly due to its role as an important independent variable that determines the outcome of behaviours. For example, many findings on underachievement in the past usually categorized students into groups against external standards for achievement levels, which consist of higher, normal and underachiever or low achievers (Carr, 1991; Colangelo, 1993). Students can be fitted into these three rough categories in terms of achievement in their academic study and academic ability. One thing that is worth mentioning is that most previous research on underachievement treated underachievers and low achievers as a whole, and made a comparison between students with below-average academic achievements and normal or high achievers. However, underachievers are quite different from their low achieving peers with the cognitive potential to excel in their academic work. Lower achievers are believed to lack the required cognitive strategies or capabilities to cope with intellectually challenging tasks. In the research literature, this group of learners is

defined as students with low ability and achievement. (Carr et al., 1991; McCall et al., 1992; Colangelo et al., 1993) Although both groups have a similar problem in using adaptive learning strategies, it is unwise to place them all into learning skill training programs because underachievers' problems have their origins in their academic self-concepts, whereas low achievers' problems have something to do with their cognitive abilities. Furthermore, underachievers demonstrate a maladaptive pattern of attribution with the result that they are more likely to attribute their performance to external or uncontrollable factors such as luck. Attribution of academic success is one of the crucial components of academic self-concept.

Low achievers, due to repeated failures in competition with their age-mates, might eventually come to the conclusion that no matter how much effort they try to put into their studies, they do not stand a chance of catching up with above-average students in their classes and give up. This would lead to learned helplessness, Seligman (1975) indicated that individuals in a state of learned helplessness come to believe that there is no relationship between their behaviour and its outcomes, which over time, leads to depression. Therefore, a low self-concept gradually comes into shape.

In research that grouped selected participants into academically gifted students and academically weak students (Garzarelli, Pamela, Everhart & Barbara, 1993), it was found that for academically weak students, the only factor that was correlated significantly with academic achievement was living with a stepparent. ($r = -.38$, p

< .05). However, for academically gifted students, academic achievement was associated strongly with self-concept ($r = .30, p < .05$). Moreover, since achievement level is influenced by multiple factors that are not limited to self-concept and its components, analysis of variance techniques may be adopted to determine weighted effects of each functioning variable connected to students' achievement in academic studies.

From a study intended to examine the effect of positive and negative illusory biases on students' academic self-concept domain, Gresham, Lane and MacMillan (2000) found that the positive relationship between academic self-concept and academic achievement is not as self-evident as it might appear to be. A substantial number of participants have been categorized either into the positive illusory biases group, which indicates they viewed their academic competence in a positive light that was above their actual performance level; or into the negative illusory biases group, which indicates they rated their academic competence lower than they actually had.

The other results of this research study also pointed out a few important clinical implications in the school setting. For example, it was found that students in the positive illusory biases group were at risk in terms of poor social competence, poor peer relationships and poor academic performance. This finding might indicate that when self-concept is not in line with one's academic capability, the discrepancy between one's over-expectation for academic performance and the actual below-

average performance may cause anger and an overreaction in the students, who may give up on their study if such an illusion persists.

The research also demonstrated evidence for self-verification theory (Swann & Hill, 1982). Baumeister et al. (1996) suggested that persons with unreasonably high self-ratings may feel threatened by negative feedback and subsequently may respond negatively to these unfavourable signals. This result has profound significance in school-based counselling programs. It admonishes our educators not to stream students into several distinct groups according to academic achievement, and if we move those teenagers outside of the high performing group into the self-esteem enhancement program, we may overlook the fact that in some cases, those who score average on achievement tests at school may have above-average or extraordinarily high self-concepts. Some of those students are trapped in self-made, unrealistic standards for academic success; some of them just simply adopt those maladjusted strategies as defence mechanism against negative responses in their learning environment. In addition, Phillips (1984, 1987), Dweck, Goetz and Strauss (1980), and Gresham, Lane and MacMillan (2000) indicated that a minority of highly academically competent children are not equipped with positive self-concepts. Therefore, we might reach a conclusion that although a great deal of literature has indicated that the two factors are positively related to one another to some extent, Academic Self-Concept and academic achievement are not always positively correlated.

Strong counterevidence was found from time to time that some high achieving students did not have a corresponding high self-concept. By contrast, students with positive illusory biases for their academic competence hold a high opinion in their capability of performing academic tasks, and often react negatively to unfavourable external stimuli that reveal their true performance level.

Parent Education Level and Academic Achievement

Previous studies on the relationship between students' academic achievement and their self-concept, whether being defined in a general sense or in a particular domain of self-concept are largely correlational. Many variables, while beyond the control of the researchers, also contribute to the achievement. Therefore, causality between academic achievement and self-concept is hard to prove since many intervening variables can not be brought under control.

In studying the factors related to the academic achievement of students at various educational levels, researchers identified the following external variables that account for factorial analysis of variances in achievement: gender, socioeconomic status of parents, family characteristics including family size, parent educational attainment, parental level of involvement, parental satisfaction as well as prior academic background of students (Alnabhan, 2001). Relative to parent-oriented variables, several studies showed parent attitudes towards their children, such as parent encouragement and involvement, exert significant influence on academic-related

achievement (Stevenson & Baker, 1987; Finn & Rock, 1997). Parent education level is closely related to parent attitudes towards education and therefore acts as an important external factor for their children's scholastic performance. For example, those parents who attained below-average years of schooling but were successful in their career might undervalue the role of education in a person's life. However, past research has indicated that parents' high level of education attainment transmitted an implicit message stressing the priority of education to their young (Zea, Jarama & Bianchi, 1995). Moreover, highly educated parents are more likely to secure higher incomes than those with average or below-average education. Students whose parents have low educational attainment may not hold high levels of expectation for academic performance without direct communication of high expectations from their parents (Kaplan, Liu & Kaplan, 2001). Parent education level is also considered to be an important predictor of their children's academic success; the higher the levels of education they received, the higher scholastic performance achieved by their children (Stevenson & Baker, 1987).

In 2003, Tavani and Losh did research on motivation, self-confidence and expectations as predictors of the academic performance among high school students. Not only did they find that parent educational level was significantly correlated with academic performance, but they also showed that for those variables entered in the multiple regression model (motivation, parent educational level, expectations and self-confidence), parent educational level was second only to expectations and was

one of the most significant predictors. In a research study conducted on a group of selected fourth graders in 1998, Abu-Lebdeh and Ahlawat found that academic achievement is significantly correlated with a batch of parent-oriented variables, which include SES of the family, preschool education and parent educational background.

The effect of parental education level sometimes varies across genders. Results from research on a group of undergraduate education students at Mu'tah University in Jordan indicated that achievement level was apparently influenced by gender specific education level of their fathers. Male students had a distinct advantage over their female counterparts on achievement level if their fathers were highly educated; however, this did not hold true for students whose fathers were less educated. In such cases, female students outperformed their male peers in terms of GPA. Interestingly enough, female students demonstrated higher achievement in academic studies regardless of the education levels of their mother in comparison with their male peers, therefore, education attainment of students' mothers seemed not to impact on their achievement level. Since the traditionally male-dominated culture still prevails in Jordan, the academic achievement of Jordanian university students is less susceptible to their mother's educational level.

Student Attitudes Towards School And Academic Achievement

Attitudes are defined as "enduring and organized structures of social beliefs that

predispose an individual to think, feel, perceive and behave selectively toward referents or--cognitive objects--of attitudes" (Kerlinger, 1984, p. 5). Researchers found student attitudes towards school came out as a heavily weighted student characteristic variable in relation to academic achievement. For example, in the process of identifying variables correlated to underachievement at school, investigators found negative attitudes towards school were associated with underachievement in gifted students (Mandel & Marcus, 1988; Ford, 1996; Reis & McCoach, 2000). Mandel and Marcus in 1988 concluded that in general, underachievers display more negative attitudes towards school than high and average achievers do. Further, as some factors closely related to underachievement in gifted students have been demonstrated, researchers noticed that student negative attitudes towards school are significant in explaining a part of the variance in achievement level (Reis & McCoach, 2000). In a study designed to pick out factors that differentiate underachieving gifted students from high achieving gifted students, the researcher administered the School Attitude Assessment Survey-Revised (SAAS-R, 2000) to the chosen samples and divided them into two distinct groups: underachieving gifted students, those who demonstrated upper level cognitive ability but unexpected low achievement scores; and high achieving students, those who scored above-average on intelligence tests and succeed in maintaining above-average grades. The results indicated that the mean difference on one of the five subscales of SAAS-R, namely attitudes towards school between high achieving gifted students and underachieving gifted students, was statistically significant. Gifted achievers

possessed more positive attitudes towards school than gifted underachievers did. (Betsy & Del, 2001) Those findings greatly supported the theory that student attitude towards school is correlated with corresponding academic achievement.

Study Habits and Academic Achievement

In addition to the above-mentioned psychological variables, student performance in academic fields was shown to be correlated with variables associated with student characteristics such as student study habits. As early as 1980, research conducted on foreign language learning indicated that one's level of proficiency in foreign language acquisition is largely a function of study habits (Ehrman & Oxford, 1995). Components of student study habits may include, but are not limited to, learning strategies, time management and attitudes towards learning. They all emerged as predictive variables of learning outcomes as measured by standardized achievement tests or GPA based on class grade. Furthermore, research has already shown students who made use of different learning strategies were bound to have significantly different results in academic performance. For example, those who studied exams administered in the past are expected to perform at a higher level in academic achievement than those who did not adopt such a strategy, as the former tried to generate patterns out of the used tests. In a study designed to understand the impact of students' academic efforts and study habits on a Principles of Macroeconomics course, student study habits and learning strategies were found to account for a substantial portion of total variance in final grade reports (Okpala, Ellis, Okpala,

2000). Moreover, it was reported by Jones, Slate and Kyle (1992) that college students who achieved high standards in academics tended to have more effective study habits as compared with their low achieving peers. Examples of such a significant correlation between academic achievement and study habits have been found at various levels of study, including high school (Elliot, Godshall, Shrout & Witty, 1990; Jones, Slate, Bell & Saddlers, 1991, Jones & Slate, 1992, Slate, Jones & Dawson, 1993; Jones, Slate & Marini 1995). Research during the past two decades verifies there is indeed a positive correlation between these two variables. Also, Student Study Habits seem to stand out as a predictor of achievement. For example, study skill enhancement programs apparently upgrade the retention rate of at-risk college students (Polansky, Horan & Hanish, 1993).

Gender, Self-concept and Academic Self-Concept

It is widely believed that male students hold a relatively more positive self-concept in math than that of their female counterparts (MacCorquodale, 1984; Hyde, Fennema, Ryan, Frost & Hopp, 1990). In the meantime, male students demonstrated higher levels of performance in math than do female students. As a result, it is tempting to assume that gendered differences do exist in some specific domains of academic self-concept, such as math. Many researchers maintain that math self-concept produces the greatest gender difference through all levels of education (MacCorquodale, 1984). It is widely known that many North American universities have made a great effort to increase the admission rate for female applicants into math and other math demanding

programs such as science and engineering. Those math-intensive departments have a disproportionately high percentage of males. As a matter of fact, a large number of female college applicants who might have chosen math-related career paths narrowed down their major options to social science and Arts, which enable them to avoid intensive study in advanced math skills. It also shown that underestimation of math ability was more common among female students than male students (Sax, 1993). As to general self-concept, several studies suggested that boys tend to maintain higher expectations and greater confidence for future academic success than do girls, (Whiteley, McHugh & Frieze, 1986). Moreover, research has revealed that gender differences in self-perceived academic competence only begins to emerge in fifth and sixth grade when boys overestimate and girls underestimate their academic competence (Cole & Martin, 1999). Therefore, it is reasonable enough to include gender as one of the non-cognitive variables that helps explain a portion of variance in academic achievement in this research study, as self-concept has developed into a firm component of junior high students' psyche.

To sum up, in comparison with global self-concept, academic self-concept seemed to be more closely correlated with student achievement and appeared to be a more reliable predictor of student achievement. Moreover, variables such as parent education, parental attitudes towards school, student attitudes towards school, student study habits and gender have been proved to be correlated with achievement and explained a significant amount of the variance in student achievement. However, past

research indicated academic self-concept is strictly subject specific, which means academic self-concept in its general notion may not take on the role of the all-around predictor for every subject. Therefore, the present research aims at investigating if academic self-concept in general can accurately predict certain school subject and average academic achievement. Also, more dimensions of self-concept were added in attempt to identify their relationships with achievement variables. Since research results showed that males possess more positive academic self-concept, especially in math when compared to females, this study also sets to examine if academic self-concept has any respective gendered effects for males and females? Moreover, as the literature above indicated that all these student and parent variables seemed to help predict academic achievement, this study rounded them up to produce a rank of significant predictor for student achievement in descending order of predictive ability.

Research Questions

This research seeks to investigate how selected variables correlate and interact to explain the academic achievement of junior high school students. Specific questions include:

- 1 a) What is the relationship between performance on average academic achievement, math and English tests and scores on the Global Self-Esteem Quotient (GSEQ)?
- 1 b) What is the relationship between performance on average academic achievement, math and English tests, and subscale scores on the Culture Free Self-Esteem Inventory (CFSEI)?

2. What is the relationship between performance on average academic achievement, math and English tests and parental education?
3. What is the relationship between performance on average academic achievement, math, English, and gender?
4. What is the relationship among average academic achievement, English achievement, math achievement, Academic Self-Concept and gender?
5. What is the relationship among performance on the Parental Attitudes Towards School questionnaire, Student Attitudes Towards School questionnaire, Student Study Habits questionnaire and parental education?
6. Is there a correlation between Parent Education and Parental Attitudes Towards School? Which of the following variables such as Student Attitudes Towards School are correlated with Student Study Habits? What, if any are the intercorrelations among these achievement variables?
7. Which of the 5 CFSEI subscales or Global Self-Concept is most closely correlated with average academic score, English score and math score? What is the ranking of variables involved in descending order of correlation with each of the student achievement variables?
8. How do Parent Education and Student Attitudes Towards School correlate with the 5 CFSEI subscales and Global Self-Concept and with three achievement variables?
9. What is the relationship of student characteristic variables (Students' Attitudes Towards School, Student Study Habits, etc) and family-oriented variables (Parent Attitudes Towards School and Parental Education) in the achievement of students?

Also, which variable, Global Self-Concept or Academic Self-Concept serves as a better predictor of average academic score, English score and math score respectively?

10. Do any of the variables predict Student Attitudes Towards School? Also, what is the relationship between Parental Attitudes Towards School and Parent Education?

CHAPTER II

METHODOLOGY

Participants:

Research participants consisting of 69 grade 6 students drawn from a junior high school in a middle size town in a mixed urban/rural setting. Although intellectual ability is deemed as an important factor that impacts the student achievement level, it can be reasonably assumed for the general student population at the junior high level that most of them would fall within the normal range of intelligence, as long as they had no experience with additional educational support or in repeating grades. Data were gathered on the Demographic Data Form regarding whether a student has received special educational support and/or repeated a grade. This information was used in subsequent data analyses. No students were eliminated from the study.

Instruments:

A well-researched instrument that has been commonly used in the past few years was administered to the selected samples. This 15-minute questionnaire by Battle (1990) titled Culture-Free Self-Esteem Inventory (CFSEI) consists of four cluster scales (Academic, General, Parental/Home, and Social) that are intended to measure general self-esteem and several particular areas of self-esteem of participants. For each question, respondents check “yes” or “no”. Raw scores can be converted into T-scores

and percentiles. Scores derived from the overall test and subtests were used to group respondents into categories: very low, low, intermediate, high and very high self-esteem. Test-retest reliability for 117 junior high school students was high ranging from .88 to .96. Also, subtest correlations ranged from .67 to .89 (Kavan, 1995). Internal consistency estimates ranged from .66 to .76 (Adams, 1985). As a measure of test validity, several studies reported significant negative correlations between CFSEI-2 and the North American Depression Inventory for Children and Adults (NADI): -.72 correlation for junior high school students and -.74 correlation for adults of or over 15 years of age were found. In addition, CFSEI-2 was found to be inversely related to another rating instrument called the Relative Anxiety Scale for Children and Adults (RAS), with -.73 correlation for students in junior high school and -.77 for adults aged 15 or older (Kavan, 1995). Therefore, CFSEI is regarded as a reliable and valid instrument that can accurately assess a participant's perception of self-worth in a broad sense and across different domains of overall self-esteem. To obtain the best results, the Adolescence Form for the latest edition of Culture-Free Self-Esteem Inventories (CFSEI-3) was administered to the participating students.

In addition, three questionnaires developed by the researcher were administered to the sample. The first two developed by the researcher have the purpose of measuring students' attitudes towards school (Appendix A) and parents' attitudes towards school (Appendix B).

The first questionnaire aims at measuring several major aspects of school characteristics, including students' internal interests in school subjects. What do students think of traditional classroom instruction? What is their view of daily interaction with peers and teachers, their feeling of involvement in constructing the school culture, their aspiration for further education, their evaluation of school rules, and their interpretation of school education in relation to career?

The second questionnaire was created to evaluate how parents feel about school in general and important functions of school education. It covers the role of school in shaping developmental changes in adolescents, the relevance of education received in school to career requirements and, whether school can accommodate varied needs of individual students so everybody has an equal opportunity to move forward, parents and school conflicts, parents' implicit view about how school education directs the life course of a person.

The third questionnaire was created for measuring students' study habits (See Appendix C). This questionnaire seeks to understand a wide range of components that are considered to be important to academic achievement. It covers students' persistence in solving hard problems, study techniques, metacognitive control over learning process, time management and general attitudes towards learning. Appendix D contains a brief demographic information sheet to be completed by the parents. All the questionnaires developed by the researcher have been reviewed by experts in the

field for face validity.

Research Procedure:

Once permission has been granted from the regional school board, contact was made with several school principals who showed interest in this study (See Appendix E and F). Once the principal agreed to allow the students in the school to participate, discussion were held with teacher prospects about the nature and purposes of the research study and information letters were presented to them as well (See Appendix G). Those who decided to permit their students to participate in the study were then asked to pass out to every student in their classes an information package that contained two information letters. One letter was for youth and one was for their parents/guardians (See Appendix H and I); also included was a consent form and a Parental Attitudes Towards School questionnaire. A basic demographic data form was also completed along with the consent forms for the purposes of obtaining parent educational level and other information such as special program support. Upon completion of the informed consent forms, the students were asked to return their finished consent forms, demographic data form and the Parental Attitudes towards School questionnaire in an envelope provided to a drop box in the Principal's office at the school. Once the consent forms were gathered, a mutually agreed-upon time was arranged in consultation with each teacher involved for survey administration. The participating students completed the questionnaires in one designated room over approximately a one hour and half period of time supported by the researcher, his

thesis supervisor and the support teacher. Following receipt of consent, student achievement records in math and English were gathered from the school. A follow up de-briefing session will be arranged for any student or parent requesting same.

Data Analyses

Data analyses were performed on SPSS to generate inferential statistical data for each research question. First, since many variables were measured on the rating scales with different ranges of scores, raw scores on each measure were converted into the standardized scores using two rating scale conversion methods (See Appendix J, K, L, and M). Then, a number of ANOVA and t-tests were run to sort out significant mean differences in the achievement variables and some other interested variables across subgroups within categorical variables such as Global Self-Concept groups, Parental Education and gender. As well, correlations among variables were calculated to understand their interactive relations and potential abilities to predict the achievement scores. Lastly, multiple regression analyses were performed for the purpose of producing the rank order of predictors for each achievement variable and for each of the other variables concerned.

Ethical Considerations

Privacy of the potential participants is a top priority in this research study. A take-home information package was chosen as a means of making initial contacts with the targeted student population in preference to mail survey. This technique was capable

of protecting the mailing addresses of the sampled age group from being revealed to any external researchers without their prior consent. As soon as the raw data was collected, all personal identifying information was coded and then master sheets were destroyed right away since this research only dealt with information in group data form. Also, all data collected was stored in a secured place in the researcher's home. As a result, confidentiality of the participants was strictly safeguarded. As to anonymity, only group data appeared in the final thesis since all participants' scores, either measured on the selected scales or obtained from the schools was classified into several major categories for data analyses. Therefore, no room was left for any third party to possibly identify any individual participating students.

CHAPTER III

RESULTS

In this chapter, demographic information about students and their parents will be shared. Then, each of the 10 research questions will be addressed in turn. Responses to the questions will include preliminary standardization and categorization of the data, followed by a description of the statistical analysis results.

Description Of The Sample

Number of students for 2 gender groups and number of parents involved

Six nine grade students participated in the study. Of all the students involved, forty three of them were females, twenty six of them were males. Also, sixty nine participating parents of the student volunteers responded to the research request and completed the mail-in survey.

Average of the raw English achievement, math achievement and average academic achievement scores

The descriptive statistics cover the means and standard deviations for the achievement variables were as follows. The average of the raw English achievement scores for all students was 3.18. The average of the raw math achievement scores for all students was 3.24. For each student, the raw English achievement score and raw math achievement score were added and then divided by 2 to obtain the raw average

academic achievement score. The average of the raw average academic achievement scores for all students was 3.22.

The average of the raw parent education scores with SD and cases for each parent education level

The average of the raw parent education scores was 3.78, with a standard deviation of 1.46. Detailed case distribution across different parent education levels is available in Table 1.

The means and SD of raw Student Attitudes Towards School scores, raw Parental Attitudes Towards School scores and raw Student Study Habits scores

The mean of raw Student Attitudes Towards School scores was 39.35 with a standard deviation of 5.802. The mean of raw Parental Attitudes Towards School scores was 41.83 with a standard deviation of 4.239. The mean of raw Student Study Habits scores was 35.86 with a standard deviation of 4.282.

Research Question 1 a): What is the relationship between performance on average academic achievement, math and English tests and scores on the Global Self-Esteem Quotient (GSEQ)?

In the Third Edition of Battle's Examiner's Manual of Culture Free Self-Esteem Inventories, raw scores recorded for each subscale are first converted into standard

scores using the normative table provided in the manual. Then the sum of the standard scores for all 6 subscales is calculated to obtain the Global Self-Esteem Quotient with the normative table provided at the back of the manual. After that, group divisions were determined in line with the descriptive ratings for the Global Self-Esteem Quotients set forth in the manual. All cases are categorized into 7 groups of very low, low, below-average, average, above-average, high and very high Self-Concept. Numeral values from 1 to 7 were assigned to the groups in order of ascending descriptive rating to perform t-tests or ANOVA analyses. Student scores for Global Self-Esteem Quotient tended to cluster around the mean. In other words, there were few extreme scores in either high or low. The majority of the scores were below-average, average and above-average.

Two methods were used to convert the raw average Academic Achievement score, raw English achievement score and raw Math achievement score into standardized scores. The first method produced Z-scores for each category. The sample was limited in size which heightened the chance that variation may occur when substituting population standard deviations with sample standard deviations. Therefore, the researcher developed the second method to rate the raw scores on the 100-point rating scale (See Appendix J). Raw scores in each achievement area were converted into 3 new standardized categories. Results from both the t-tests and ANOVA analyses showed that test results obtained by both rating scale conversion methods were identical.

A number of ANOVA tests were run to see if there were any significant mean differences in either one of achievement areas: average combined scores of math and English tests (average academic achievement), English test scores and math test scores among 7 different Global Self-Concept group divisions.

Significant differences were found when comparing Global Self-Esteem Quotient groups on performance in average academic achievement and in math. The average academic scores and math scores of the very low, low and below-average GSEQ were significantly lower than those of the above-average group. Details are available in Table 2. In addition, the scores in English were significantly lower for the low GSEQ group compared to the above-average group. Moreover, the low GSEQ group achieved significantly lower scores in average academic achievement, English and math when compared to the average GSEQ group.

Originally, all cases were grouped into 7 categories for Global Self-Esteem Quotient (GSEQ) in accordance with descriptive ratings in Examiner's Manual of CESEI-3 for the Global Self-Esteem Quotients. However, research data showed that for the Global Self-Esteem Quotient, a substantially large number of cases clustered within average and above-average group divisions, resulting in very limited group members in each of very low, low and below-average divisions. Moreover, no distribution of cases has been located within high and very high group divisions. Therefore, it was appropriate to regroup Global Self-Esteem Quotient groups into a new categorical variable with

fewer group divisions. Consequently, meaningful comparisons among the new group divisions could be made due to their increased member size.

The new groups were the below-average group consisting of the original below-average; low and very low groups and the above-average group consisting of the original average and above-average groups. Significant differences were found when comparing the new group divisions on performance in average academic achievement, English and math. The average academic scores, English scores and math scores of the new below-average group were significantly lower than those of the new above-average group. Details are available in Table 8.

Based on the above, students in the higher GSEQ group division achieved significantly higher scores on all achievement variables compared to those in the lower group division.

Research Question 1 b) What is the relationship between performance on average academic achievement, math and English tests, and subscale scores on the Culture Free Self-Esteem Inventory (CFSEI)?

The following five CFSEI-3 subscales were used to address the research question 1 b): Academic, General, Parent/Home, Personal and Social Self-Concept. For each CFSEI-3 subscale, group divisions are determined in line with the descriptive ratings

for the subscale standard scores set forth in the manual. For Example, for Academic Self-Concept, all cases were categorized into 7 groups of very low, low, below-average, average, above-average, high and very high Academic Self-Concept groups.

Student scores for the five subscale of the CFSEI-3 tended to clustered around the mean. In other words, there were few extreme scores in either high or low groups. The majority of the scores were below-average, average and above-average.

A number of ANOVA tests have been run to see if there were any significant mean differences in standardized average academic achievement scores, English test scores and math test scores among the group divisions of each subscale.

Significant differences were found when comparing Academic Self-Concept groups on performance in average academic achievement, English and math. The average academic score, English score and math score of the average Academic Self-Concept group were significantly lower than those of the above-average group. In addition, the below-average Academic Self-Concept group achieved significantly lower scores in average academic achievement and math when compared to the above-average Academic Self-Concept group. Details are available in Table 3.

When comparing General Self-Concept groups on performance in average academic achievement, English and math, significant differences were found. The average

academic scores, English scores and math scores of the below-average General Self-Concept group were significantly lower than those of the above-average group. In addition, below-average General Self-Concept group achieved significantly lower scores in average academic achievement and English when compared to the average General Self-Concept group. Details are available in Table 4.

Significant differences were found when comparing Parental/Home Self-Concept groups on performance in average academic achievement, English and math. The average academic score, English score and math score of the average Parental/Home Self-Concept group were significantly lower than those of the above-average group. Details are available in Table 5.

Findings revealed significant differences when comparing Personal Self-Concept groups on performance in average academic achievement and in math. The average academic score and math score of the low Personal Self-Concept group were significantly lower than those of the above-average group. In addition, the average academic achievement score was significantly lower for the low Personal Self-Concept group compared to the average group. Moreover, the score in math was significantly lower for the below-average Personal Self-Concept group compared to the above-average group. Details are available in Table 6.

Significant differences were found when comparing Social Self-Concept groups on

performance in English. The English score was significantly lower for the below-average Social Self-Concept group compared to the low group. However, no significant mean differences in average academic achievement and math among the Social Self-Concept groups have been found. Details are available in **Table 7**.

Research data showed that for nearly each subscale, a substantially large number of cases clustered within average and above-average group divisions, resulting in very limited group members in each of very low, low and below-average divisions. Moreover, no distribution of cases has been located within high and very high group divisions. Therefore, it was appropriate to regroup these categorical variables on CESEI-3 subscales into new categorical variables with fewer group divisions to allow for meaningful comparisons.

For Academic Self-Concept, the new groups were the below-average group consisting of the original average and below-average groups and the above-average group consisting of the original above-average group. Significant differences were found when comparing the new group divisions on performance in average academic achievement, English and math. The new below-average group achieved significantly lower scores in average academic achievement, English and math when compared to the new above-average group. Details are available in **Table 9**.

For General Self-Concept, the new groups were the below-average group consisting

of the original below-average; low and very low groups, the average group consisting of the original average group and the above-average group consisting of the original above-average group. Significant differences were found when comparing the new group divisions on performance in average academic achievement, English and math. The average academic score, English score and math score of the new below-average group were significantly lower than those of the new above-average group. Details are available in Table 10. In addition, the average academic achievement score was significantly lower for the new below-average group compared to the new average group. Details are available in Table 10.

Only 4 memberships have been found within the original below-average, low and very low groups. Therefore, for Parent/Home Self-Concept, the new groups were the average group consisting of the original average, below-average, low and very low groups and the above-average group consisting of the original above-average groups. Significant differences were found when comparing the new group divisions on performance in average academic achievement, English and math. The new average group achieved significantly lower scores in average academic achievement, English and math when compared to the new above-average group. Details are available in Table 11.

For Personal Self-Concept, the new groups were the below-average group consisting of the original below-average; low and very low groups, the average group consisting

of the original average group and the above-average group consisting of the original above-average group. Significant differences were found when comparing the new group divisions on performance in average academic achievement and in math. The average academic score and math score of the new below-average group were significantly lower than those of the new above-average group. Details are available in Table 12. In addition, the score in math was significantly lower for the new below-average group compared to the new average group. Details are available in Table 12.

For Social Self-Concept, the new groups were the below-average group consisting of the original below-average; low and very low groups, the average group consisting of the original average group and the above-average group consisting of the original above-average group. No significant mean differences in average academic achievement, English scores and math scores have been found among the new below-average group, the new average group and the new above-average group.

To sum up, the three achievement scores of the new above-average group were significant higher than those of the new below-average group for Academic Self-Concept and General Self-Concept. For Parental/Home Self-Concept, the new average group achieved significant lower scores on three achievement variables when compared to the new above-average group. The higher the new group divisions within Personal Self-Concept, the higher the average academic achievement and math scores were. There was no relationship between Social Self-Concept and three achievement

scores.

Research Question 2 What is the relationship between performance on average academic achievement, math and English tests and parental education?

To see if there were any significant mean differences in 3 achievement areas among groups with different parental education levels, Parental Education was defined as a categorical variable and numeral values from 1 to 6 were assigned to the groups in order of ascending parental education levels to conduct ANOVA tests. The 6 levels of parental education were Some High School Education (PE1), High School Graduation (PE2), Some University/College Education (PE3), Community College Graduation/Certification (PE4), University Degree (PE5), and Graduate Education And Above (PE6).

Significant differences were found when comparing the group divisions on student performance in average academic achievement. The average academic scores of the students whose parents were in Some University/College group and Community College Graduation/Certification group were significantly lower than that of the students whose parents were in University Degree group. Details are available in Table 13.

Significant differences were found when comparing the group divisions on

performance in English. The English score of the Some High School group was significantly lower than those of the University Degree group and the Graduate Education And Above group. Details are available in Table 13.

Significant differences were found when comparing the group divisions on performance in math. The score in math were significantly lower for the Community College Graduation/Certification group compared to the University Degree group. Details are available in Table 13.

A series of ANOVA was run to see if Parental Education showed any significant mean differences in average academic achievement scores, English scores and math scores across its group divisions. However, test results were not very consistent across the groups of different parental education levels. Moreover, for Some high School group and High School Graduation group, there were only 3 and 8 members, respectively. Therefore, it was appropriate to regroup Parental Education into a new categorical variable with fewer group divisions with increased member size. The new groups were the low group consisting of the original Some high School Education and High School Graduation groups; the average group consisting of the original Some University/College Education and Community College Graduation/Certification groups and the high group consisting of the original University Graduation and Graduate Education And Above groups.

The analysis results showed that there were no significant mean differences in average academic achievement scores, English scores and math scores between the low group and average group.

Significant differences were found when comparing the new group divisions on performance in English. The English score of the low Parent Education group was significantly lower than that of the high Parent Education group. However, no significant mean differences in average academic scores and math scores were found between the low group and high group. Details are available in Table 14.

The analysis results indicated that there were no significant mean differences in average academic achievement scores, English scores and math scores between the average group and high group.

In a word, the only significant findings for the regrouping was that the scores in English were significant lower for the low Parent Education group compared to the high Parent Education group. No significant mean differences in average academic scores and math scores were found in the group comparisons.

Research Question 3: What is the relationship between performance on average academic achievement, math, English, and gender?

A number of ANOVA tests were conducted to see if female students as a group scored differently on three achievement variables than male students as a group. For females, a numeral value of 1 was assigned to them. For males, a numeral value of 2 was assigned to them. Therefore, ANOVA analysis could be performed to investigate the group differences in three achievement areas.

The final results showed that no significant mean differences in average academic achievement, English and math were found between the female group and the male group. Details are available in Table 15.

Research Question 4: What is the relationship among average academic achievement, English achievement, math achievement, Academic Self-Concept and gender?

Interactive effects of the group divisions within Academic Self-Concept and gender on three achievement variables were explored. For example, researchers may naturally wonder if a certain group within the Academic Self-Concept exerts a similar impact across two different gender groups. Independent sample t-tests revealed significant mean differences in average academic achievement, English and math among different Academic Self-Concept categories by gender.

Significant differences were found when comparing the female average academic self-concept group and female above-average academic self-concept group on

performance in average academic achievement, English and math. The average academic score, English score and math score of the female average academic self-concept group were significantly lower than those of the female above-average academic self-concept group. Details are available in Table 16.

Findings revealed significant differences when comparing the female average academic self-concept group and male average academic self-concept group on performance in math. The math score was significantly lower for the female average academic self-concept group compared to the male average academic self-concept group. Details are available in Table 16.

Significant differences were found when comparing the female average academic self-concept group and male above-average academic self-concept group on performance in average academic achievement and in math. The average academic score and math score of the female average academic self-concept group were significantly lower than those of the male above-average academic self-concept group. Details are available in Table 16.

Significant differences were found when comparing the male average academic self-concept group and female above-average academic self-concept group on performance in English. The English score was significantly lower for the male average academic self-concept group compared to the female academic above-

average self-concept group. Details are available in Table 16.

Significant differences were found when comparing the male above-average academic self-concept group and female above-average academic self-concept group on performance in English. The English score was significantly lower for the male above-average academic self-concept group compared to the female above-average academic self-concept group. Details are available in Table 16.

No significant mean differences in average academic achievement, English and math were found between the male average academic self-concept group and the male above-average academic self-concept group.

To sum up, Academic Self-Concept exerted gendered effects on the two gender groups. It had a positive effect on all achievement variables for females, but not for males. Gender alone did not impact the achievement variables.

Research Question 5: What is the relationship among performance on the Parental Attitudes Towards School questionnaire, Student Attitudes Towards School questionnaire and Student Study Habits questionnaire and Parental Education?

Two rating scale conversion methods were also used to transform the raw scores on Parental Attitudes Towards School, Student Attitudes Towards School and Student

Study Habits into 2 types of standardized scores, respectively (See Appendix L). Significant differences were found when comparing the group divisions within Parental Education on performance on Parental Attitudes Towards School. The scores on Parental Attitudes Towards School for the Some High School group, High School Graduation group and Some University/College group were significantly higher than that of the Graduate Education And Above group. In addition, the High School Graduation group achieved significantly higher score on Parental Attitudes Towards School when compared to the Community College Graduation/Certification group. Details are available in Table 17.

Results showed that no significant mean differences in performance on Student Attitudes Towards School and Student Study Habits were found among the group divisions within Parental Education.

Significant differences were found when comparing the new group divisions within Parental Education in performance on Parental Attitudes Towards School. The low group achieved significantly higher scores on Parental Attitudes Towards School when compared to the average group and the high group. Details are available in Table 18. However, no significant mean difference in performance on Parental Attitudes Towards School was found between the average group and the high group.

The analysis results showed that no significant mean differences in performance on

Student Attitudes Towards School and Student Study Habits were found among the new group divisions within Parental Education.

In a word, Parent Education negatively impacted on Parental Attitudes Towards School as the low group scored significantly lower on Parental Attitudes Towards School questionnaire when compared to the average and high groups. There were no relationships among Parent Education, Student Attitudes Towards School and Student Study Habits.

Research Question 6: Is there a correlation between Parent Education and Parental Attitudes Towards School? Which of the following variables such as Student Attitudes Towards School are correlated with Student Study Habits? What, if any are the intercorrelations among these achievement variables?

Two rating scale conversion methods were also used to convert the raw Parental Education scores into Z scores and scores measured on the 100 point rating scale (See Appendix M). Results from the analyses showed that test results obtained by both rating scale conversion methods were the same. Intercorrelations among the variables were calculated using Pearson's r to understand how one variable may correlate with the others. Significant intercorrelations among the variables are reported below. Details are available in Table 19.

Parental Attitudes Towards School was moderately correlated with Parent Education only and in a negative way ($r=-.399$, $\alpha=.001$). As Parent Education increased scores on Parental Attitudes Towards School decreased.

Student Study Habits was moderately correlated with Student Attitudes Towards School only and in a positive way ($r=.471$, $\alpha=.000$). As scores on Student Attitudes Towards School increased Student Study Habits scores increased as well.

Average academic achievement was more closely correlated with math ($r=.944$, $\alpha=.224$) than with English ($r=.906$, $\alpha=.224$). Moreover, average academic achievement was most highly correlated with math than any of the other variables.

English and math have the highest correlation with one another than with any one of the other variables aside from their correlations with average academic achievement. However, since the average academic achievement score was derived from the combined mean of the English score and math score, therefore a close correlation would be expected.

To sum up, the only variable found to correlate with Parental Attitudes Towards School was Parent Education. Parent Education had a positive impact on Parental Attitudes Towards School. Student Study Habits was moderately correlated with Student Attitudes Towards School only and was also positively impacted by this

variable. Average Academic score was more highly correlated with math score than with English score.

Research Question 7: Which of the 5 CFSEI subscales or Global Self-Concept is most closely correlated with average academic score, English score and Math score? What is the ranking of variables involved in descending order of correlation with each of the student achievement variables?

Two rating scale conversion methods were also used to convert the raw scores on Global Self-Concept and 5 CFSEI subscales into Z scores and scores measured on the 100 point rating scale (See Appendix K). Significant intercorrelations among the variables determined by Pearson's r are reported below.

Academic Self-Concept was most closely correlated with average academic achievement ($r=.441$, $\alpha=.000$), English ($r=.315$, $\alpha=.008$) and math ($r=.482$, $\alpha=.000$) respectively than any of the other self-concept related variables. Moreover, Academic Self-Concept was most highly correlated with average academic achievement, English and math respectively than any of the other variables if the other two achievement variables were excluded from each correlation analysis. Further, the ranking of variables measured in Z scores in descending order of correlation with average academic achievement measured in Z scores was as follows. Academic Self-Concept ($r=.441$, $\alpha=.000$, 2-tailed), Global Self-Concept ($r=.350$, $\alpha=.003$, 2-tailed), General

Self-Concept ($r=.313$, $\alpha=.009$, 2-tailed), Parent/Home Self-Concept ($r=.303$, $\alpha=.011$, 2-tailed) and Personal Self-Concept ($r=.275$, $\alpha=.022$, 2-tailed). Details are available in Table 31. Slight differences in the ranking of variables measured on the 100 point rating scale in descending order of correlation with average academic achievement measured on the 100 point rating scale occurred. The ranking was as follows: Academic Self-Concept ($r=.429$, $\alpha=.000$, 2-tailed), Global Self-Concept ($r=.351$, $\alpha=.003$, 2-tailed), Parent/Home Self-Concept ($r=.315$, $\alpha=.008$, 2-tailed), General Self-Concept ($r=.313$, $\alpha=.009$, 2-tailed), Person Self-Concept ($r=.266$, $\alpha=.027$, 2-tailed). Details are available in Table 31. However, since SPSS doesn't process fractions so the standardized scores in form of fractions were rounded to the nearest hundredth, this probably resulted in the slight differences in the intercorrelations calculated by using 2 types of standardized scores. Likewise, the rankings of variables measured in Z scores and on the 100 point rating scale in descending order of correlation with English were as follows: Academic Self-Concept ($r=.315$, $\alpha=.008$, 2-tailed/ $r=.306$, $\alpha=.011$, 2-tailed), General Self-Concept ($r=.275$, $\alpha=.022$, 2-tailed/ $r=.273$, $\alpha=.023$, 2-tailed), Global Self-Concept ($r=.266$, $\alpha=.027$, 2-tailed/ $r=.268$, $\alpha=.026$, 2-tailed), Parent/Home Self-Concept ($r=.247$, $\alpha=.041$, 2-tailed/ $r=.263$, $\alpha=.029$, 2-tailed). This time, two rating scale conversion methods produced the identical rankings of variables in correlation with English. The ranking of variables measured in Z scores in descending order of correlation with math measured in Z scores was as follows. Academic Self-Concept ($r=.482$, $\alpha=.000$, 2-tailed), Global Self-Concept ($r=.372$, $\alpha=.002$, 2-tailed), Personal Self-Concept ($r=.315$, $\alpha=.008$, 2-tailed), Parent/Home

Self-Concept ($r=.309$, $\alpha=.010$, 2-tailed), General Self-Concept ($r=.301$, $\alpha=.012$, 2-tailed). Slight differences in the ranking of variables measured on the 100 point rating scale in descending order of correlation with average academic achievement measured on the 100 point rating scale occurred. The ranking was as follows: Academic Self-Concept ($r=.471$, $\alpha=.000$, 2-tailed), Global Self-Concept ($r=.372$, $\alpha=.002$, 2-tailed), Parent/Home Self-Concept ($r=.317$, $\alpha=.008$, 2-tailed), Personal Self-Concept ($r=.308$, $\alpha=.010$, 2-tailed), General Self-Concept ($r=.303$, $\alpha=.011$, 2-tailed).

In all, Academic Self-Concept turned out to most closely correlate with three achievement variables. Academic Self-Concept and Global Self-Concept ranked top two on the list of self-concept related variables in descending order of correlation with average academic achievement and math achievement, respectively. However, Academic Self-Concept, General Self-Concept and Global Self-Concept ranked on the top of the list of self-concept related variables in order of descending correlation with English.

Research Question 8: How do Parent Education and Student Attitudes Towards School correlate with the 5 CFSEI subscales and Global Self-Concept and with three achievement variables?

Parent Education was not correlated with Academic Self-Concept ($r=.117$, $\alpha=.347$, 2-tailed)/($r=.158$, $\alpha=.201$, 2-tailed). Further, Parent Education was moderately correlated

with General Self-Concept ($r=.333$, $\alpha=.006$, 2-tailed), Social Self-Concept ($r=.320$, $\alpha=.008$, 2-tailed) and Global Self-Concept ($r=.309$, $\alpha=.011$, 2-tailed), all measured in Z scores. However, using the scores measured on the 100 point rating scale, Parent Education was moderately correlated with General Self-Concept ($r=.333$, $\alpha=.006$, 2-tailed), Parent/Home Self-Concept ($r=.265$, $\alpha=.030$, 2-tailed), Personal Self-Concept ($r=.254$, $\alpha=.038$, 2-tailed), Social Self-Concept ($r=.324$, $\alpha=.007$, 2-tailed), and Global Self-Concept ($r=.327$, $\alpha=.007$, 2-tailed). Also, measured in Z scores and on the 100 point rating scale, Parent Education was moderately correlated with English $r=.283$, $\alpha=.020$, 2-tailed)/($r=.282$, $\alpha=.021$, 2-tailed), but not with average academic achievement and math.

Measured in both Z scores and on the 100 point rating scale, Student Attitudes Towards School ($r=.471$, $\alpha=.000$, 2-tailed)/($r=.471$, $\alpha=.000$, 2-tailed) was most closely correlated with Student Study Habits. Also, Student Attitudes Towards School had the descending correlations with only 3 of the CFSEI subscales: Parent/Home Self-Concept ($r=.404$, $\alpha=.001$, 2-tailed/ $r=.392$, $\alpha=.001$, 2-tailed), Academic Self-Concept($r=.318$, $\alpha=.008$, 2-tailed/ $r=.326$, $\alpha=.007$, 2-tailed) and Global Self-Concept ($r=.250$, $\alpha=.040$, 2-tailed/ $r=.247$, $\alpha=.042$, 2-tailed). However, Student Attitudes Towards School was not correlated with any of the achievement variables. Details are available in Table 19 and 20.

Based on the results above, Parent Education was not correlated with Academic Self-

Concept and was only correlated with English, but not with the other achievement variables. Student Attitudes Towards School was moderately correlated with Parent/Home Self-Concept, Academic Self-Concept and Global Self-Concept only. Also, Student Attitudes Towards School was uncorrelated with all achievement variables.

Research Question 9: What is the relationship of student characteristic variables (Students' Attitudes Towards School, Student Study Habits, etc) and family-oriented variables (Parent Attitudes Towards School and Parental Education) in the achievement of students? Also, which variable, Global Self-Concept or Academic Self-Concept serves as a better predictor of average academic score, English score and math score respectively?

Six stepwise regression analyses were performed to produce the rankings of significant predictors for three achievement variables. The following variables measured in Z scores and on the 100 point rating scale were entered as potential predictors in each regression analysis: Parent Education, Parental Attitudes Towards School, Student Attitudes Towards School, Study Habit, Academic Self-Concept, General Self-Concept, Parental/Home Self-Concept, Personal Self-Concept, Social Self-Concept and Global Self-Concept.

Academic Self-Concept ($\beta=.448$, $\alpha=.000/\beta=.447$, $\alpha=.000$) was the only significant

predictor of average academic achievement. Also, Academic Self-Concept (Adjusted R Square=.188; $F=16.041$, $\alpha=.000$ /Adjusted R Square=.188; $F=16.010$, $\alpha=.000$) significantly explained nearly 20% of the variance in average academic achievement. Details of the first regression analysis on determining the significant predictors for average academic achievement measured in Z scores are available in Table 21. Details of the second regression analysis on determining the significant predictors for average academic achievement measured on the 100 point rating scale are available in Table 22.

Academic Self-Concept ($\beta=.297$, $\alpha=.012$)/ $\beta=.304$, $\alpha=.010$) and Parent Education ($\beta=.269$, $\alpha=.023$)/ $\beta=.266$, $\alpha=.024$) were the only significant predictors of English achievement. Also, Academic Self-Concept and Parent Education measured in Z scores (Adjusted R Square=.150, $F=6.722$, $\alpha=.002$)/Academic Self-Concept and Parent Education measured on the 100 point rating scale (Adjusted R Square=.153, $F=6.872$, $\alpha=.002$) significantly explained a small amount of variance of about 15% in English. Details of the third regression analysis on determining the significant predictors for English measured in Z scores are available in Table 23. Details of the fourth regression analysis on determining the significant predictors for English measured on the 100 point rating scale are available in Table 24.

Academic Self-Concept ($\beta=.486$, $\alpha=.000$)/ $\beta=.480$, $\alpha=.000$) was the only significant predictor of math achievement. Also, Academic Self-Concept (Adjusted R

Square=.224; $F=19.758$, $\alpha=.000$)/Adjusted R Square=.218; $F=19.123$, $\alpha=.000$) significantly explained a little more than 20% of the variance in math achievement. Details of the fifth regression analysis on determining the significant predictors for math measured in Z scores are available in Table 25. Details of the six regression analysis on determining the significant predictors for math measured on the 100 point rating scale are available in Table 26.

In short, Academic Self-Concept was the only significant predictor for average academic score and math score and significantly accounted for around 20% of the variance in the two respective achievement scores. Academic Self-Concept and Parent Education stayed as the only significant predictors for English score and significantly explained about 15% of the variance in English score. Global Self-Concept had no say in predicting three achievement variables.

Research Question 10: Do any of the variables predict Student Attitudes Towards School? Also, what is the relationship between Parental Attitudes Towards School and Parent Education?

Four stepwise regression analyses were performed to rank significant predictors for Student Attitudes Towards School and Parental Attitudes Towards School in descending order, respectively. The following variables measured in Z scores and on the 100 point rating scale were entered as potential predictors for Student Attitudes

Towards School: Parent Education, Parental Attitudes Towards School, Student Study Habits, Academic Self-Concept, General Self-Concept, Parental/Home Self-concept, Personal Self-Concept, Social Self-Concept, and Global Self-Concept. All potential predictors of Student Attitudes Towards School entered were also used for predicting Parental Attitudes Towards School with the exception of replacing Parental Attitudes Towards School with Student Attitudes Towards School.

Student Study Habits ($\beta=.442$, $\alpha=.000$), Parent/Home Self-Concept ($\beta=.559$, $\alpha=.000$) and Person Self-Concept ($\beta=-.244$, $\alpha=.049$) measured in Z scores were the significant predictors of Student Attitudes Towards School. Also, Student Study Habits, Parent/Home Self-Concept and Person Self-Concept measured in Z scores (Adjusted R Square=.381; $F=14.330$, $\alpha=.000$)/Student Study Habits ($\beta=.443$, $\alpha=.000$), Parent/Home Self-Concept ($\beta=.401$, $\alpha=.000$) measured on the 100 point rating scale (Adjusted R Square=.342; $F=17.875$, $\alpha=.000$) significantly explained a large amount of the variance in Student Attitudes Towards School. Details of the first regression analysis on determining the significant predictors for Student Attitudes Towards School are available in Table 27. Details of the second regression analysis on determining the significant predictors for Student Attitudes Towards School are available in Table 28.

Parent Education ($\beta=-.396$, $\alpha=.001$) was the only significant predictor of Parental Attitudes Towards School. Also, Parent Education (Adjusted R Square=.144;

$F=11.936, \alpha=.001$) significantly accounted for a small amount of variance in Parental Attitudes Towards School. Details of the third regression analysis on determining the significant predictors for Parental Attitudes Towards School measured in Z scores are available in Table 29. Details of the fourth regression analysis on determining the significant predictors for Parental Attitudes Towards School measured on the 100 point rating scale are available in Table 30.

To make the analysis findings short, Student Study Habits and Parent/Home Self-Concept positively predicted Student Attitudes Towards School. Parent Education was the only significant predictor for Parental Attitudes Towards School and also negatively predicted it.

CHAPTER IV

SUMMARY AND DISCUSSION

Sixty nine sixth graders from a local junior high school in a middle size town in a mixed urban/rural setting agreed to take part in the study. Of all the student participants, forty three of them were females; twenty six of them were males. Over the one hour and half questionnaire administration period, the participants completed 3 questionnaires developed to measure a number of student related variables including Student Attitudes Towards School, Student Study Habits, Global Self-Concept and five dimensions of the Culture Free Self-Esteem Inventory. Also, information on parent related variables was gathered on the parent completed questionnaire enclosed with the Parent/Guardian Consent Form returned to the Principal's Office. Surveys completed by the consenting parents included the Parental Attitudes Towards School questionnaire and Demographic Data Form that requested information on the highest level of parental education attained and some basic education information about his/her child.

Summary of Findings

In the sections to follow, key findings from this study will be shared.

Global Self-Concept and Achievement

ANOVA tests revealed that the average academic scores and math scores of the very

low, low and below-average GSEQ were significantly lower than those of the above-average group. Also, the scores in English were significantly lower for the low GSEQ group compared to the above-average group. All three achievement scores (average academic, English and math) were significantly lower for the low GSEQ group compared to the average GSEQ group.

Global Self-Esteem Quotient groups were then regrouped into a new categorical variable with fewer group divisions for more meaningful group comparisons. The new below-average group achieved significantly lower scores in average academic achievement, English and math when compared to the new above-average group.

Five CFSEI-3 Subscales and Achievement

Results from ANOVA analyses were as follows. For Academic Self-Concept, the average academic score, English score and math score of the average Academic Self-Concept group were significantly lower than those of the above-average group. Also, the scores in average academic achievement and math were significantly lower for the below-average Academic Self-Concept group compared to the above-average group.

For General Self-Concept, the below-average General Self-Concept group achieved significantly lower scores in average academic achievement, English and math when compared to the above-average group. Also, the average academic scores and English scores of the below-average General Self-Concept group were significantly lower

than those of the average General Self-Concept group.

For Parental/Home Self-Concept, the average Parental/Home Self-Concept group achieved significantly lower scores in average academic achievement, English and math when compared to the above-average group.

For Personal Self-Concept, the average academic score and math score of the low Personal Self-Concept group were significantly lower than those of the above-average group. Also, the average academic score of the low Personal Self-Concept group was significantly lower than that of the average group.

For Social Self-Concept, the scores in English were significantly lower for the below-average Social Self-Concept group compared to the low group.

Later, the categorical variables on the CESEI-3 subscales were regrouped into new categorical variables with fewer group divisions with increased member size. ANOVA results revealed that the average academic scores, English scores and math scores of the new below-average Academic Self-Concept group were significantly lower than those of the new above-average group.

For General Self-Concept, all three achievement scores were significantly lower for the new below-average group compared to the new above-average group. Also, the

average academic achievement score were significantly lower for the new below-average group compared to the new average group.

For Parental/Home Self-Concept, the scores in average academic achievement, English and math were significantly lower for the new average group compared to the new above-average group.

For Personal Self-Concept, the average academic score and math score of the new below-average group were significantly lower than those of the new above-average group. Also, the math score of the new below-average group was significantly lower than that of the new average group.

For Social Self-Concept, no significant mean differences in average academic achievement, English scores and math scores were found among the new below-average group, new average group and new above-average group.

Parent Education and Achievement

ANOVA tests showed that the average academic scores of the Some University/College group and Community College Graduation/Certification group were significantly lower than that of the University Degree group. Also, the scores in English were significantly lower for the Some High School group compared to the University Degree group and the Graduate Education And Above group. As well, the

math score of the Community College Graduation/Certification group was significantly lower than that of the University Degree group.

Parental Education was then regrouped into a new categorical variable with fewer group divisions to allow for more meaningful comparisons. The scores in English were significantly lower for the low Parent Education group compared to the high Parent Education group. However, no significant mean differences in English scores were found in the other group comparisons and no significant mean differences in academic achievement scores and math scores were found in any group comparisons.

Gender And Achievement

ANOVA test results indicated that there were no significant mean differences in average academic achievement, English and math between the female group and the male group.

Academic Self-Concept, Gender And Achievement

ANOVA results revealed that the female average Academic Self-Concept group achieved significantly lower scores in average academic achievement, English and math when compared to the female above-average Academic Self-Concept group. Also, the math score was significantly lower for the female average self-concept group compared to both the male average and above-average self-concept groups. As well, the scores in average academic achievement were significantly lower for the

female average Academic Self-Concept group compared to the male above-average Academic Self-Concept group. Further, The English scores of the male average Academic Self-Concept group and the male above-average Academic Self-Concept group were significantly lower than those of the female above-average Academic Self-Concept group. Lastly, there were no significant mean differences in average academic achievement, English and math between the male average Academic Self-Concept group and the male above-average Academic Self-Concept group.

Parental Education, Parental Attitudes, Student Attitudes and Student Study Habits

The ANOVA results showed that the scores on Parental Attitudes Towards School for the Some high School group, High School Graduation group and Some University/College group were significantly higher than that of the Graduate Education And Above group. Also, the score on Parental Attitudes towards School for the Community College Graduation/Certification group was significantly lower than that of the High School Graduation group. However, no significant mean differences in performance on Student Attitudes Towards School and Student Study Habits were found among the group divisions within Parental Education.

Later, mean differences in performance on the Parental Attitudes Towards School questionnaire, Student Attitudes Towards School questionnaire and Student Study Habits questionnaire across the new group divisions among parent education were

explored. The low group achieved significantly higher scores on Parental Attitudes Towards School when compared to the average group and the high group. However, there were no significant mean differences in performance on Student Attitudes Towards School and Student Study Habits among the new group divisions within Parental Education.

Correlations Among Parent Education, Parental Attitudes Towards School And Student Study Habits And The Three Achievement Variables

Parental Attitudes towards School was moderately correlated with Parent Education only and in a negative way ($r = -.399$, $\alpha = .001$). Also, Student Study Habits was moderately correlated with Student Attitudes Towards School only and in a positive way ($r = .471$, $\alpha = .000$). As well, of all the variables involved in the correlational analyses, average academic achievement was most closely correlated with math ($r = .944$, $\alpha = .224$), followed by English ($r = .906$, $\alpha = .224$). English and math had the highest correlation with one another than with any of the other variables aside from their correlations with average academic achievement.

Correlations Among Global Self-Concept, Five CFSEI Subscales And Three Achievement Variables.

Academic Self-Concept was most closely correlated with average academic achievement ($r = .441$, $\alpha = .000$), English ($r = .315$, $\alpha = .008$) and math ($r = .482$, $\alpha = .000$) respectively than any of the other subscales of the CFSEI-3. When all the variables

were ranked in descending order of correlation for the Z-scores and 100-point scores, Academic Self-Concept, followed by Global Self-Concept, were the highest ranking variables for the average academic scores and math scores. However, Academic Self-Concept, followed by General Self-Concept, and then by Global Self-Concept, were the highest ranking variables for the English scores.

Correlations Of Parent Education And Student Attitudes Towards School With 5 Subscales Of The CFSEI-3, Global Self-Concept And Three Achievement Variables.

Moderate correlations of Parent Education with General Self-Concept, Social Self-Concept and Global Self-Concept measured in Z scores were found. However, measured on the 100 point rating scale, Parent Education was moderately correlated with General Self-Concept, Parent/Home Self-Concept, Personal Self-Concept, Social Self-Concept, and Global Self-Concept. Of all three achievement variables, Parent Education was only moderately correlated with English.

Student Attitudes Towards School was most closely correlated with Student Study Habits. Only Parent/Home Self-Concept, Academic Self-Concept and Global Self-Concept were found to be correlated with Student Attitudes Towards School.

Predictors of Three Achievement Variables In The Regression Analyses

Academic Self-Concept was the only significant predictor of average academic

achievement and significantly explained nearly 20% of the variance in average academic achievement.

Academic Self-Concept and Parent Education were the only significant predictors of English achievement. The two variables significantly accounted for a small amount of variance of about 15% in English measured either in Z scores or on the 100 point rating scale.

Academic Self-Concept was the only significant predictor of math achievement and significantly explained a little more than 20% of the variance in math achievement

Predictors Of Student Attitudes Towards School And Parental Attitudes Towards School

Student Study Habits and Parent/Home Self-Concept measured in Z scores and on the 100 point rating scale respectively, plus Personal Self-Concept measured in Z scores were significant predictors of Student Attitudes Towards School. Either one of the two predictor groups significantly explained a large amount of the variance in Student Attitudes Towards School measured either in Z scores or on the 100 point rating scale.

Parent education acted as the only significant negative predictor of Parental Attitudes Towards School and significantly explained a small amount of variance in Parental Attitudes Towards School.

Discussion

Global Self-Concept and Achievement

Significant mean differences in some or all three achievement scores were found among certain group comparisons for Global Self-Esteem Quotient. After regrouping, the findings revealed that the new below-average group scored significantly lower on all achievement variables when compared to the new above-average group. Similar to findings in the literature, the finding of this study established that global self-concept had an impact on the achievement variables (Purkey 1970, Gwin, 1990).

Five CFSEI-3 Subscales and Achievement

Of the CFSEI-3 subscales, similar patterns among Academic Self-Concept and General Self-Concept with the new below-average groups scoring significantly lower on the average academic, English and math achievement tests than the new above-average groups were found. Also, the average academic, English and math scores of the new average group were significantly lower than those of the new above-average group. Again, the significant relationship was identified between Academic Self-Concept and the achievement scores as shown in the previous studies (Lyon 1993; Hansford & Hattie, 1982). However, this pattern differed for both Personal and Social Self-Concept.

There was a relationship between Personal Self-Concept scores and scores on average academic and math achievement, but not English, for both original groups and the

regrouping.

Social Self-Concept was related to English scores with the original groups, but their relationship was not significant with the regrouping. This finding indicated that Social Self-Concept had no influence on the achievement scores of students. Previous studies also found that Social Self-Concept was not accountable for changes in GPA (Anderman, Griesinger & Anderman, 1999). This is to say, Social Self-Concept might not be correlated with any one of the achievement variables, not even with English and was unlikely to predict the achievement levels of a student. In all, the researcher predicted that Academic Self-Concept, Global Self-Concept and Parent/Home Self-Concept were most closely correlated with the achievement variables, followed by General Self-Concept, and then by Personal Self-Concept. Therefore, the regrouping of the self-concept related categorical variables proved to be a better way of eliminating the chance variations that arose from the limited member sizes for certain layers within the original categorical variables. Also, it was a better way of sorting out the self-concept related variables correlated with three achievement variables.

Parent Education and Achievement

From the original analyses, mean differences in three achievement scores were inconsistent across the groups within Parent Education and difficult to interpret. However, after the regrouping, the only significant finding was that the English score of the low Parent Education group was significantly lower than that of the high Parent

Education group. This indicated parental education was very likely to be correlated with English and may serve as a predictor of the English scores. The prediction was confirmed. The later analyses showed that Parental Education was only correlated with the English score, but not with the average academic score and math score. Also, Parental Education predicted English Achievement. The results were not surprising as research showed that parent education was correlated with academic performance (Tavani & Losh, 2003; Abu-Lebdeh & Ahlawat, 1998). Also, alongside with other variables, Parent Education was sorted out as a significant predictor for scholastic performance of students (Stevenson & Baker, 1987; Alnabhan, 2001). Could it be that the language of the home mirrors that of the classroom more closely, giving children of well educated parents an advantage? As to the math scores and Parent Education, methods of math instruction are very different today than those in place when parents went to school; therefore, parents may have difficulties with giving their child help with math. Also, the regrouping of Parent Education was a better way of eliminating the chance variations that arose from the limited member sizes for certain layers within the original categorical variable. It was a better way of pre-testing whether Parent Education was correlated with any of the three achievement variables.

Gender And Achievement

The final results showed that no significant mean differences in average academic scores, English scores and math scores were found between female group and male group. This tells us that gender had no effect on the achievement variables. This

finding differs from the previous research indicating males achieved higher scores in math when compared to females (Maccoby & Jacklin, 1974; Halpern, 1986).

Academic Self-Concept, Gender And Achievement

Interactive effects of the group divisions within Academic Self-Concept and gender on three achievement variables were explored. The scores in English were significantly lower for the female average self-concept group compared to the female above-average self-concept group. Therefore, a positive relationship was found for Academic Self-Concept group divisions and the English scores for females. Meanwhile, no significant mean difference in English was found between female average self-concept group and male average self-concept group, indicating probably gender had little or no relationship on the English scores for these two groups. Moreover, since no significant mean difference in English has been found between male average self-concept group and male above-average self-concept group, it follows that Academic Self-Concept group divisions had no impact on English for males. Therefore, no significant mean difference in English was found between female average self-concept group and male above-average self-concept group. So gender had no effect on English. To sum up, Academic Self-Concept group divisions had a positive relationship with the English scores for females but not for males. Gender had little or no relationship to the English scores.

No significant mean difference in math was found between female above-average

self-concept group and male above-average self-concept group. This indicates that probably gender had little or no relationship with the math scores for these two groups. Meanwhile, the scores in math were significantly lower for the female average self-concept group compared to the female above-average self-concept group; therefore, Academic Self-Concept group divisions had a positive effect on math for females. Since no significant mean difference in math was found between male average self-concept group and male above-average self-concept group, therefore, Academic Self-Concept group divisions had no impact on math for males. Therefore, the math score of the female average self-concept group was significantly lower than that of the male average self-concept group because males were immune from the impact of Academic Self-Concept group divisions. So gender had little or no relationship with the math scores. To sum up, Academic Self-Concept group divisions had a positive relationship with the math scores for females but not for males. Gender had no impact on math.

No significant mean difference in the average academic scores was found between female above-average self-concept group and male above-average self-concept group. This indicates that probably gender had no effect on average academic achievement for these two groups. Meanwhile, the average academic scores were significantly lower for the female average self-concept group compared to the female above-average self-concept group; therefore, Academic Self-Concept group divisions had a positive relationship with average academic achievement for females. Since no

significant mean difference in average academic scores was found between male average self-concept group and male above-average self-concept group, therefore Academic Self-Concept group divisions had no impact on average academic achievement for males. Therefore, the average academic score of the female average self-concept group was significantly lower than that of the male above-average self-concept group since males were immune from the impact of Academic Self-Concept group divisions. So Gender had little or no relationship with average academic achievement. One discrepancy is that if the explanation above it is true, then how can one explain why average academic scores were not significantly higher for the male average self-concept group compared to the female average self-concept group? Male above-average self-concept group exceeded female average self-concept group ($t=3.578$, $\alpha=.002$) in average academic scores by a significant margin. However, the average academic score of the male average self-concept group was lower than that of the male above-average self-concept group, but not at a statistically significant level ($t=-1.096$, $\alpha=.284$). Besides, group mean comparison between the female average self-concept group ($t=-1.834$, $\alpha=.076$) and the male average self-concept group almost approached the significant α level. Therefore, the researcher concludes that gender had no impact on average academic achievement and Academic Self-Concept group divisions had a positive relationship with average academic achievement for females, but not for males.

To sum up, gender had no impact on average academic scores, English scores and

math scores. Academic Self-Concept group divisions had a positive relationship with average academic scores, English scores and math scores for females, but not for males. These findings support the previous claim that gender bore no impact on three achievement scores. This finding differs from the research that suggested females achieved lower scores in school leaving exams and scored fewer points on math and science tests (Forbes, 1987; NZCER, 1988).

Parental Education, Parental Attitudes, Student Attitudes and Student Study Habits

The Graduate Education And Above group achieved significantly lower scores on Parental Attitudes Towards School when compared to the Some High School group, High School Graduation group and Some University/College group. This indicated that Parental Education might be negatively correlated with Parental Attitudes Towards School. Moreover, mean scores on Student Attitudes Towards School and Student Study Habits did not vary significantly across different Parental Education groups. Therefore, these two variables might not be correlated or may be loosely correlated with Parental Education.

For the regrouping, the test results showed that the scores on Parental Attitudes Towards School of the low group were significantly higher than those of the average group and high group. Therefore, the researcher concluded that the low group had more satisfactory parental attitudes towards school than the average group and high

group. Parents with high education attainments might be more devoted to the academic study of their youth, care more about their youth's education and the school system, thus they appeared to be less satisfied with the school system. Less educated parents may have a more limited understanding of the school system or they may be more likely to defer to the authority of the school system. In comparison with less educated parents, parents with high levels of education may hold higher educational expectations for their children; in turn this may translate into high expectations for the school system. Also, Parental Education was likely to be negatively correlated with Parental Attitudes Towards School. In fact, as shown in the later analyses, Parental Education was not only negatively correlated with Parental Attitudes Towards School, but also negatively predicted it. Therefore, the regrouping of Parental Education was a better way of eliminating the chance variations that arose from the limited member sizes for certain layers within the original categorical variable. Since no significant mean differences in performance on Student Attitudes Towards School and Student Study Habits were found among the new group divisions within Parental Education, both variables might not be correlated with or be weakly correlated with Parental Education.

Correlations Among Parent Education, Parental Attitudes Towards School And Student Study Habits And The Three Achievement Variables

Parental Attitudes Towards School was only correlated with Parent Education in a

negative fashion. This shows that Parental Attitudes Towards School was not susceptible to the student related variables such as Student Attitudes Towards School or dimensions of students' self-concept. Therefore, the researcher predicts that Parent Education may take on the role of the only predictor for Parental Attitudes Towards School. In fact, as shown in the later regression analyses, Parent education ($\beta = -.396$, $\alpha = .001$) was the only significant predictor of Parental Attitudes Towards School.

Since average Academic Score was more closely correlated with math achievement score ($r = .944$, $\alpha = .224$, 2-tailed) than with English achievement score ($r = .906$, $\alpha = .224$, 2-tailed), it follows that there were more variations in math scores than in English scores.

Correlations Among Global Self-Concept, Five CFSEI Subscales And Three Achievement Variables.

Neither one of the achievement variables was included in any multiple-regression equation on predicting any of the achievement variables because they were highly correlated with one another. Therefore, Academic Self-Concept is likely to be a very significant predictor for three achievement variables since it had the third highest correlation with each of the achievement variables. This has been proved in the previous regression analyses.

Academic Self-Concept and Global Self-Concept ranked first and second in correlation with the average academic score and with math score, respectively. Moreover, Academic Self-Concept, General Self-Concept, Global Self-Concept ranked first, second and third in correlation with the English score. From the research findings, Academic Self-Concept was more closely associated with academic achievement than was overall self-concept (Shavelson & Bolus, 1982; Marsh, Byrne, & Shavelson, 1988; Marsh 1990b). This finding was again confirmed by this study as Academic Self-Concept enjoyed the highest correlation of all with three respective achievement measures. This indicates that both Academic Self-Concept and Global Self-Concept ranked on the high end of each list of the self-concept related variables in correlation with each achievement variable (Hansford & Hattie, 1982; Garzarelli, Pamela, Everhart, Barbara, 1993; Lyon, 1993). One interesting result was that Personal Self-Concept was correlated with the average academic score and math score, but not with the English score. By comparison with the ANOVA results in the Results Chapter, the group divisions within Personal Self-Concept had no statistically significant impact on mean differences in the English scores. This partly explains why Personal Self-Concept was not correlated with the English score. As predicted, Social Self-Concept was not correlated with the average academic score, English score and math score. Finally, research results showed that each CFSEI-3 subscale variable was more closely correlated with Global Self-Concept than with any other one of the CFSEI-3 subscale variables. This proves that self-concept consists of multi-dimensional subsets and each subset is relatively independent of the others (Marsh,

1988, Harter 1990, Hattie & Marsh, 1996, Bracken, 1996). It was not surprising to notice Academic Self-Concept was least correlated with Global Self-Concept. Both variables were ranked on top of each list of the self-concept related variables correlated with each achievement variable and they were least correlated with one another. Therefore, it is quite legitimate to include both of them as potential predictors for the achievement variables in the multiple-regression analyses.

Correlations Of Parent Education And Student Attitudes Towards School With 5 Subscales Of The CFSEI-3, Global Self-Concept And Three Achievement Variables.

As predicted, Parent Education was found to be positively correlated with English, but not with average academic achievement and math. In addition, since Parent Education was not correlated with Academic Self-Concept ($r=.117$, $\alpha=.347$, 2-tailed), plus the moderate correlation between Parent Education and English ($r=.283$, $\alpha=.020$, 2-tailed), Parent Education may play a role as one of the predictors for English in conjunction with Academic Self-Concept. This conclusion was supported in the later regression analysis. Also, historical evidence indicated that Parent Education significantly explained a part of the variance in students' achievement performance (Stevenson & Baker, 1987; Alnabhan, 2001). However, since Parent Education was not correlated with either average academic achievement or math, the researcher hypothesized that it may not act as a predictor for average academic achievement and math in the regression analyses. This conclusion was verified as shown by the

regression analysis results.

Student Attitudes Towards School was not correlated with average academic achievement, English and math. This contradicted the findings indicating negative student attitudes towards school was associated with underachievement in school (Mandel & Marcus, 1988; Ford, 1996; Reis & McCoach, 2000). Besides, Student Attitudes Towards School was moderately correlated with Academic Self-Concept ($r=.318$, $\alpha=.008$, 2-tailed). Therefore, it is likely to be excluded from the list of predictors for the achievement variables. This prediction turned out to be true in the regression analyses. Based on several cases on estimating the best predictors for the achievement variables, the researcher concludes that if an independent variable stands a good chance of serving as a predictor in the regression equation, it must be moderately or highly correlated with the dependent variable, but be uncorrelated with or loosely correlated with the very strong predictor(s).

Predictors of Three Achievement Variables In The Regression Analyses

Academic Self-Concept ($\beta=.448$, $\alpha=.000$) was present as a strong positive predictor of average academic score. Other potential predictors failed to predict average academic score at the designated significance level ($p.\leq .100$).

Academic Self-Concept ($\beta=.297$, $\alpha=.012$) and Parent Education ($\beta=.269$, $\alpha=.023$) came through as the positive predictors of English score. Other potential predictors

were not significant at predicting the English score. Also, Academic Self-Concept was the strongest predictor of the English score with moderately strong predictability, Parent Education stood second in predicting the English score with moderate predictability.

Academic Self-Concept ($\beta=.486$, $\alpha=.000$) also turned out to be a strong positive predictor of math score. The rest of the potential predictors were removed in the stepwise regression for being insignificant in predicting the math score.

In all, Academic Self-Concept was top listed on each ranking list of predictors for each achievement variable. This is not surprising as Bloom (1976) also ranked Academic Self-Concept the strongest non-cognitive variable of all for predicting academic achievement. However, Global Self-Concept failed to predict either one of the achievement variables. Although Global Self-Concept was closely correlated with the achievement variables, it was also most highly correlated with all 5 CFSEI-3 subscale variables, including Academic Self-Concept; therefore it was scratched off the predictor lists in the regression analyses. Academic Self-Concept, instead of Global Self-Concept successfully predicted each achievement variable as Academic Self-Concept was found to predict the overall school performance and achievement test scores of elementary and secondary school students (Lyon, 1993; Lyon & MacDonald, 1990; Mintz & Muller, 1977).

Predictors Of Student Attitudes Towards School And Parental Attitudes Towards School

Ranked from the highest to the lowest in order of predictive ability, Student Study Habits, Parent/Home Self-Concept and Personal Self-Concept measured in Z scores emerged as predictors for Student Attitudes Towards School measured in Z scores. However, only Student Study Habits and Parent/Home Self-Concept measured on the 100 point rating scale in descending order of predictive importance came through as predictors for Student Attitudes Towards School measured on the 100 point rating scale. However, Personal Self-Concept had a very weak predictive ability since it was just significant at $\alpha=.049$ for predicting Student Attitudes Towards School. Therefore, the researcher concludes that only Parent/Home Self-Concept and Student Study Habits should be counted as strong predictors of Student Attitudes Towards School. The order of their ranks in predicting Student Attitudes Towards School was unclear. However, since Student Attitudes Towards School was most strongly correlated with Student Study Habits, it may be right to assume Student Study Habits to be the best predictor of all for Student Attitudes Towards School. Significant others such as one's parents have a big part in shaping a person's perception of him or her self, which in turn can help adapt his or her attitudes and beliefs to an evolving assessment of one's competence and weights assigned to one's personal characteristics. Therefore, it was reasonable that Parent/Home Self-Concept was a positive predictor of Student Attitudes Towards School.

Parent education ($\beta = -.396$, $\alpha = .001$), the only significant predictor of parental attitudes towards school, also negatively predicted it. Large negative Beta value of Parent Education indicated its powerful influence on parental attitudes towards school. As shown in the previous correlation tests, parental attitudes towards school was only correlated with parent education, and they were strongly correlated in a negative fashion. It was interesting to note that parental attitudes towards school was not susceptible to the changes in the other variables, such as student achievement scores. This finding might indicate that on the one hand, highly educated parents were not happy about educational achievement that was below their high educational expectations for their children. Also, parents with high education levels were likely to help their children study English. On the other hand, it is possible that the less educated parents did not blame the school for their children's below-average academic performance or had lower expectations for the academic achievement of their children.

Recommendations for Schools:

1. Academic Self-Concept was a significant positive predictor for the achievement variables. Therefore, the researcher suggests that schools run more sessions on the enhancement of Academic Self-Concept in combination with extra academic help to boost student achievement levels. Further relationship between Academic Self-Concept and achievement scores could be monitored with further research.

2. The data analysis results revealed that gender has no influence on three achievement variables. However, Academic Self-Concept group divisions had a positive effect on all three achievement variables for females, but not for males. Therefore, schools may want to add more Academic Self-Concept enhancement programs and activities specifically targeted to females as the female achievement levels were susceptible to how they feel about themselves academically.

3. Parent Education was negatively correlated with Parental Attitudes Towards School. Also, Parent Education was positively correlated with the English score and positively predicted it. Therefore, the school should encourage the less educated parents to be more actively involved in the school related affairs so that they can contribute to the continued growth of the school system.

4. Correlation test results indicated that the average academic score was more closely correlated with math achievement score than with English achievement score. Therefore, more resources and efforts should be shifted to the betterment of math achievement rather than to the betterment of English achievement if schools intend to improve the overall achievement level of students.

5. Interestingly, although parent education also had a share in predicting English scores, it did not predict the average academic score and math score. If highly educated parents were more attentive to the educational needs of their children and

exerted efforts in helping them with their study of English, then why not assist them in their math study as well? The results may imply that either the parents with high education levels had a good command of English, but not of math, or were more adept at helping with the language study of their children. If this is the case, the school may deliver off-school programs on math skills to interested students if their parents were not much of help with their study of math.

6. Student Study Habits and Parent/Home Self-Concept were identified as two strong predictors for Student Attitudes Towards School, which was moderately correlated with Academic Self-Concept, a strong predictor of the student achievement variables. Therefore, schools might set up workshops on developing proper study habits. Meanwhile, parents could frequently communicate with their children to create a more comfortable home environment in which both sides feel free to clear up any confusion. Improvement in performance on Student Study Habits and Parent/Home Self-Concept measuring scales could strengthen the relationship between these variables and scores on Student Attitudes Towards School.

Recommendations For Further Research:

1. The data analysis results revealed that gender had no impact on three achievement variables, including math. However, some previous research indicated the presence of gendered performance in math in favour of males. Therefore, researchers may further investigate the relationship between gender and academic performance.

2. From the research results, Academic Self-Concept group divisions had a positive effect on all three achievement variables for the female group only. No significant mean differences in three achievement scores were found between the male average Academic Self-Concept group and male above-average self-concept group. Therefore, further research may separate participating students into 2 different gender groups and identify respective significant predictors for males and females, if different from the significant predictors for the mixed gender group.

3. Only Academic Self-Concept has been found to account for a moderate amount of the variance in the average academic score. Therefore, further research may include more variables to explain more variance in the average academic score.

4. Only Academic Self-Concept and parent education were found to explain a small amount of the variance in the English score. Therefore, further research may include more variables to account for more variance in the English score. Up to this point, no convincing reasons why parental education predicted the English score were confirmed. Since Parental Education is a relatively stable variable and seldom fluctuates much as students grow up over the years, new variables may be included in future research to discover whether parents with high education attainments devote more effort in helping their children study English or are more attentive to the early childhood language development of their children.

5. Only Academic Self-Concept has been found to account for a moderate amount of the variance in the math score. Therefore, further research may include more variables in an attempt to explain more variance in the math score.

Limitations Of The Study

Some caution should be exercised when reviewing the research results. First of all, in regards to scores on the defensive scale of the CFSEI-3 that measures the extent to which an examiner's responses are guarded, 16 participants scored 4 points or higher on this scale. According to the CFSEI-3 Examiner's Manual, a high score on this scale indicates unwillingness to open up one's true feelings and the cutoff score for the defensive scale on the Adolescent Form was set at 4 points. Therefore, researchers should be cautious about viewing the results since these higher scorers on the defensive scale might be more hesitant in revealing how they actually felt about themselves.

Given that the sample size is less than 100, the findings will be hard to generalize to the entire population in Canada. Furthermore, the sampling procedure of selecting potential schools resulted in a lack of randomization with the result that the sample was drawn from one local school. Other schools in other areas may possess different psychological or demographic characteristics and thus if some of them were included, the result might turn out to be different. Therefore, the generalizability of the study findings is limited to junior high school students in rural Nova Scotia.

Some questionnaires used in this study were designed by the researcher and haven't gone through a series of rigorous tests on the instrument validity and reliability. As a result, it can not be assumed that they have validity beyond face validity nor do we know their reliability.

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Table 1

Raw Parent Education Score

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PE level	Frequency	Percent
PE1	3	4.3
PE2	8	11.6
PE3	25	36.2
PE4	8	11.6
PE5	11	15.9
PE6	12	17.4

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PE=Parent Education PE1=Some High School Education, PE2=High School Graduation,
 PE3=Some University/College Education, PE4=Community College Graduation/Certification,
 PE5=University Graduation, PE6=Graduate Education And Above

Table 2

Significant mean differences in average academic, English and math scores among Global Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	very low	above-average	-1.21320(*)	.53548	.027
	low	average	-1.24527(*)	.43824	.006
	low	above-average	-1.96646(*)	.56162	.001
	below-average	above-average	-1.16146(*)	.48883	.021
ES	low	average	-1.28772(*)	.44808	.005
	low	above-average	-1.81086(*)	.57423	.002
MS	very low	above-average	-1.39923(*)	.53824	.012
	low	average	-1.04672(*)	.44049	.020
	low	above-average	-1.83443(*)	.56451	.002
	below-average	above-average	-1.25277(*)	.49134	.013

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score,
 ES=English score, MS=math score

* p< .05

Table 3

Significant mean differences in average academic, English and math scores among Academic Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	below-average	above-average	-1.24477*	.55143	.027
	average	above-average	-.84993*	.22550	.000
ES	average	above-average	-.73226*	.23492	.003
MS	below-average	above-average	-1.62082*	.54266	.004
	average	above-average	-.83550*	.22191	.000

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score,
 ES=English score, MS=math score

* p< .05

Table 4

Significant mean differences in average academic, English and math scores among General Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	below-average	average	-.84827*	.37532	.027
	below-average	above-average	-1.26467*	.39569	.002
ES	below-average	average	-.82678*	.37349	.030
	below-average	above-average	-1.30209*	.39376	.002
MS	below-average	above-average	-1.07558*	.40370	.010

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score,
 ES=English score, MS=math score

* p< .05

Table 5

Significant mean differences in average academic, English and math scores among Parent/Home Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	average	above-average	-.94869*	.22781	.000
ES	average	above-average	-.90576*	.23110	.000
MS	average	above-average	-.86243*	.22958	.000

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score,
 ES=English score, MS=math score

* $p < .05$

Table 6

Significant mean differences in average academic, English and math scores among Personal Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	low	average	-1.20165(*)	.59016	.046
	low	above-average	-1.40034(*)	.59637	.022
MS	low	above-average	-1.41210(*)	.58847	.019
	below-average	above-average	-.82800(*)	.37439	.031

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score,
 MS=math score

* $p < .05$

Table 7

Significant mean differences in average academic, English and math scores among Social Self-Concept groups.

Dependent	Group Division	Group Division	MD	SE	Sig.
ES	low	below-average	1.39671(*)	.63460	.031

 MD= Mean Difference, SE= Standard Error, Sig.=significance, MS=math score

* $p < .05$

Table 8

Significant mean differences in average academic, English and math scores between the new below-average group and new above-average group within Global Self-Concept.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	N below-average	N above-average	3.070	38.133	.004
ES	N below-average	N above-average	-2.389	35.181	.022
MS	N below-average	N above-average	-3.185	40.763	.003

 Sig.=significance, AAS=average academic score, ES=English score, MS=math score, N=new

Table 9

Significant mean differences in average academic, English and math scores between the new below-average group and new above-average group within Academic Self-Concept.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	N below-average	N above-average	-4.186	66.998	.000
ES	N below-average	N above-average	-3.193	63.982	.002
MS	N below-average	N above-average	-4.332	66.488	.000

 Sig.=significance, AAS=average academic score, ES=English score, MS=math score, N=new

Table 10

Significant mean differences in average academic, English and math scores between the new below-average group, new average group and new above-average group within General Self-Concept.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	N below-average	N average	-2.030	35.891	.050
	N below-average	N above-average	-3.546	31.450	.001
ES	N below-average	N above-average	-2.971	32.164	.006
MS	N below-average	N above-average	-3.302	29.964	.002

 Sig.=significance, AAS=average academic score, ES=English score, MS=math score, N=new

Table 11.

Significant mean differences in average academic, English and math scores between the new average group and new above-average group within Parent/Home Self-Concept.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	N average	N above-average	-4.230	58.918	.000
ES	N average	N above-average	-3.844	65.542	.000
MS	N average	N above-average	-3.896	55.318	.000

 Sig.=significance, AAS=average academic score, ES=English score, MS=math score, N=new

Table 12

Significant mean differences in average academic, English and math scores between the new below-average group, average group and above-average group within Personal Self-Concept.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	N below-average	N above-average	-2.553	23.202	.018
MS	N below-average	N average	-2.135	26.103	.042
	N below-average	N above-average	-3.149	23.688	.004

 Sig.=significance, AAS=average academic score, MS=math score, N=new

Table 13

Significant mean differences in average academic, English and math scores among six group divisions within Parental Education.

Dependent	Group Division	Group Division	MD	SE	Sig.
AAS	PE3	PE5	-.74648(*)	.35332	.039
	PE4	PE5	-.91962(*)	.45375	.047
ES	PE1	PE5	-1.58526(*)	.61647	.013
	PE1	PE6	-1.23071(*)	.61094	.048
MS	PE4	PE5	-1.06530(*)	.46130	.024

 MD= Mean Difference, SE= Standard Error, Sig.=significance, AAS=average academic score, ES=English score, MS=math score, PE1=Some High School Education, PE2=High School Graduation, PE3=Some University/College Education, PE4=Community College Graduation/Certification, PE5=University Graduation, PE6=Graduate Education And Above

* $p < .05$

Table 14

Significant mean differences in average academic, English and math scores among the new group divisions within Parental Education.

Dependent	Group Division	Group Division	t	df	Sig.
ES	N low	N high	-2.133	17.606	.047

 Sig.=significance, ES=English score, N=new

Table 15

ANOVA of the Results of the Average Academic, English and Math Scores by Gender.

Source		SS	df	MS	F
AAS	Between group	.201	1	.201	.199
	Within group	67.799	67	1.012	
	Total	68.000	68		
ES	Between group	.516	1	.516	.512
	Within group	67.484	67	1.007	
	Total	68.000	68		
MS	Between group	1.705	1	1.705	1.723
	Within group	66.295	67	.989	
	Total	68.000	68		

AAS=average academic score, ES=English score, MS=math score

Table 16

Significant mean differences in average academic, English and math scores between female average academic self-concept group, female above-average academic self-concept group, male average academic self-concept group and male above-average academic self-concept group.

Dependent	Group Division	Group Division	t	df	Sig.
AAS	F-A-ASC	F-AA-ASC	-4.398	37.721	.000
	F-A-ASC	M-AA-ASC	-3.578	23.955	.002
ES	F-A-ASC	F-AA-ASC	-3.695	38.858	.001
	F-AA-ASC	M-A-ASC	2.160	30.205	.039
	F-AA-ASC	M-AA-ASC	2.291	23.273	.031
MS	F-A-ASC	F-AA-ASC	-4.556	34.418	.000
	F-A-ASC	M-A-ASC	-2.523	33.505	.017
	F-A-ASC	M-AA-ASC	-3.857	17.383	.001

Sig.=significance, AAS=average academic score, ES=English score, MS=math score, F-A-ASC= female average academic self-concept, F-AA-ASC= female above-average academic self-concept, M-A-ASC= male average academic self-concept, M-AA-ASC= male above-average academic self-concept

Table 17

Significant mean differences in performance on Parental Attitudes Towards School questionnaire among the group divisions within Parent Education.

Dependent	Group Division	Group Division	MD	SE	Sig.
PA	PE1	PE6	1.45475(*)	.61881	.022
	PE2	PE4	1.00259(*)	.47933	.041
	PE2	PE6	1.17952(*)	.43756	.009
	PE3	PE6	.73130(*)	.33667	.034

MD= Mean Difference, SE= Standard Error, Sig.=significance, PA=Parental Attitudes Towards School, PE1=Some High School Education, PE2=high School Graduation, PE3=Some University/College Education, PE4=Community College Graduation/Certification, PE5=University Graduation, PE6=Graduate Education And Above

Table 18

Significant mean differences in performance on Parental Attitudes Towards School questionnaire among the new group divisions within Parent Education.

Dependent	Group Division	Group Division	t	df	Sig.
PA	N low	N average	2.391	26.781	.024
	N low	N high	3.965	26.054	.001

Table 19

Intercorrelations among the Different Variables Measured in Z Scores

	PE	PA	SA	SH	AAS	ES	MS	AS	GS	PHS	PS	SS	GS
PE													
PA	-.399**												
SA	.258*	.057											
SH	.221	.084	.471**										
AAS	.174	.039	.190	-.001									
ES	.283*	.011	.167	.012	.906**								
MS	.072	.056	.185	-.009	.944**	.716**							
AS	.117	.055	.318**	.120	.441**	.315**	.482**						
GS	.333**	-.196	.143	.008	.313**	.275*	.301*	.527**					
PHS	.235	-.046	.404**	.023	.303*	.247*	.309**	.576**	.592**				
PS	.221	-.124	.081	.008	.275*	.178	.315**	.637**	.655**	.602**			
SS	.320**	-.175	.196	.003	.196	.137	.217	.468**	.604**	.640**	.747**		
GS	.309*	-.132	.250*	.023	.350**	.266*	.372**	.732**	.820**	.809**	.898**	.856**	

PE=Parent Education, PA=Parent Attitudes Towards School, SA= Student Attitudes Towards School, SH=Student Study Habits, AAS=Average Academic Score, ES=English Score, MS=Math Score, AS=Academic Self-Concept, GS=General Self-Concept, PHS=Parent/Home Self-Concept, PS=Personal Self-Concept, SS=Social Self-Concept, GS=Global Self-Concept,

* $p < .05$

** $p < .01$

Table 20

Intercorrelations among the Different Variables Measured on the 100 Point Rating Scale.

	PE	PA	SA	SH	AAS	ES	MS	AS	GS	PHS	PS	SS	GS
PE													
PA	-.399**												
SA	.246*	.057											
SH	.228	.084	.471**										
AAS	.158	.039	.190	-.001									
ES	.282*	.011	.167	.012	.906**								
MS	.047	.056	.185	-.009	.944**	.716**							
AS	.119	.055	.326**	.132	.429**	.306*	.471**						
GS	.333**	-.161	.115	-.018	.313**	.273*	.303*	.539**					
PHS	.265*	-.047	.392**	.024	.315**	.263*	.317**	.565**	.598**				
PS	.254*	-.141	.089	-.007	.266*	.170	.308*	.626**	.679**	.611**			
SS	.324**	-.182	.201	-.001	.202	.141	.224	.462**	.611**	.632**	.762**		
GS	.327*	-.130	.247*	.022	.351**	.268*	.372**	.728**	.832**	.806**	.909**	.854**	

PE=Parent Education, PA=Parent Attitudes Towards School, SA= Student Attitudes Towards School, SH=Student Study Habits, AAS=Average Academic Score, ES=English Score, MS=Math Score, AS=Academic Self-Concept, GS=General Self-Concept, PHS=Parent/Home Self-Concept, PS=Personal Self-Concept, SS=Social Self-Concept, GS=Global Self-Concept,

* $p < .05$

** $p < .01$

Table 21

Stepwise Multiple Regressions of Average Academic Score by Z Score Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.266	.067	.448	.188	16.041*

AS=Academic Self-Concept

* $p < .05$

Table 22

Stepwise Multiple Regressions of Average Academic Score by the 100-Point Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.348	.087	.447	.188	16.010*

AS=Academic Self-Concept

* $p < .05$

Table 23

Stepwise Multiple Regressions of English Score by Z Score Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.173	.067	.297	.150	6.722*
PE	.266	.114	.269		

AS=Academic Self-Concept, PE=Parent Education

* $p < .05$

Table 24

Stepwise Multiple Regressions of English Score by the 100-Point Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.219	.083	.304	.153	6.872*
PE	.223	.096	.266		

AS=Academic Self-Concept, PE=Parent Education

* $p < .05$

Table 25

Stepwise Multiple Regressions of Math Score by Z Score Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.293	.066	.486	.224	19.758*

AS=Academic Self-Concept

* $p < .05$

Table 26

Stepwise Multiple Regressions of Math Score by the 100-Point Rating.

Variables	B	SE B	β	Adjusted R	F
AS	.459	.105	.480	.218	19.123*

AS=Academic Self-Concept

* $p < .05$

Table 27

Stepwise Multiple Regressions of Student Attitudes Towards School by Z Score Rating.

Variables	B	SE B	β	Adjusted R	F	t	Sig.
SH	.435	.096	.442	.381	14.330*	4.529	.000
PHS	.212	.046	.559			4.587	.000
PS	-.082	.041	-.244			-2.007	.049

SH=Student Study Habits, PHS=Parent/Home Self-Concept, PS=Personal Self-Concept

* $p < .05$

Table 28

Stepwise Multiple Regressions of Student Attitudes Towards School by the 100-Point Rating.

Variables	B	SE B	β	Adjusted R	F
SH	.591	.134	.443	.342	17.875
PHS	.227	.057	.401		

SH=Student Study Habits, PHS=Parent/Home Self-Concept

* $p < .05$

Table 29

Stepwise Multiple Regressions of Parental Attitudes Towards School by Z Score Rating.

Variables	B	SE B	β	Adjusted R	F
PE	-.409	.119	-.396	.144	11.936

PE=Parent Education

* $p < .05$

Table 30

Stepwise Multiple Regressions of Parental Attitudes Towards School by the 100 Point Rating.

Variables	B	SE B	β	Adjusted R	F
PE	-.296	.086	-.396	.144	11.936

PE=Parent Education

* $p < .05$

APPENDIX A: STUDENT ATTITUDES TOWARDS SCHOOL

Below is a list of items that describe Student Attitudes Towards School. For each item, please provide a number response on a scale of 1 to 5 on the right

Student Name _ _ _ _ _ **Student ID number** _ _ _ _ _

Please indicate the grade you are in currently:

☐ **Grade 7** ☐ **Grade 8** ☐ **Grade 9**

Please indicate your Gender:

☐ **Male** ☐ **Female**

1=strongly disagree 2=disagree 3= not sure 4=agree 5=strongly disagree

1. I like going to school. _ _
2. School is important to my future career. _ _
3. Classroom instructions help clarify my learning. _ _
4. I can make use of some knowledge learned at school in everyday life. _ _
5. I have intrinsic interest in my course content. _ _
6. I am expecting to move on to the next level of study. _ _
7. School discipline rules make me and my schoolmates work better. _ _
8. I enjoy sharing my ideas and interacting with my schoolmates. _ _
9. The school really cares about my personal well-being. _ _
10. I am actively involved in the improvement of my school cultures. _ _

APPENDIX B: PARENTAL ATTITUDES TOWARDS SCHOOL

Below is a list of items that describe Parent Attitudes Towards School, please choose a rating on the five point scale from 1-5 for each of the statements and place that number in the blank.

1=strongly disagree 2=disagree 3= not sure 4=agree 5=strongly disagree

Name _ _ _ _ _ (your name will be matched with your child but none of this information will be released to the school nor will you be identified in any way except for the researcher)

Please indicate whether you are the mother _ _ father _ _

1. School is important to my child's future career. _ _
2. My child has lots of opportunities to interact positively with peers at school. _ _
3. School education is vital to all areas of intellectual, moral and Interpersonal development of my child _ _
4. School provides my youth with appropriate training in practical skills transferable to work settings. _ _
5. School balances the development of my child's intellectual abilities with his/her psychological and physical well being. _ _
6. My youth is currently enjoying a better experience with school than I did. _ _
7. The school environment values and improves the unique positive characteristics of my child. _ _
8. School helps develop a highly persistent and optimistic personality in my child. _ _
9. Nearly all the principles and practices in school education are in agreement with my personal philosophy. _ _
9. School is preparing my child well for the next level of study. _ _

Please feel free to make any comments

APPENDIX C: STUDENT STUDY HABITS QUESTIONNAIRES

Below is a list of items that describe Student Study Habits. For each item, please provide a score on a scale of 1 to 5 on the right.

Student Name _ _ _ _ _ **Student ID number** _ _ _ _ _

1=strongly disagree 2=disagree 3= not sure 4=agree 5=strongly disagree

1. I prefer to do my schoolwork in a quiet area. _ _
2. When coming across difficult questions in my homework, I always try my best
to solve them on my own. _ _
3. I never put off doing my schoolwork until the last minute. _ _
4. Most of the time, I am able to concentrate on my study. _ _
5. I never or seldom take notes in class. _ _
6. I have been attempting to do more self management during my study. _ _
7. I like making and carrying out executable, step-by-step study plans. _ _
8. I go over/review and summarize course materials learned on a regular basis. _ _
9. I usually like developing my own ways of learning. _ _
10. I rarely ask the teacher for help in understanding complex concepts. _ _
11. I seldom cram for my upcoming exams. _ _
12. I seldom make the same mistakes more than once in my schoolwork. _ _

APPENDIX D: GENERAL INFORMATION FOR PARENTS AND/OR GUARDIANS

Parent Name _ _ _ _ _

1. Please indicate the person completing this form:

Mother _ _ _ Father _ _ _ Guardian _ _ _

2. Please indicate the highest educational level attained:

Mother/Guardian _ _ _ _ _ Farther/Guardian _ _ _ _ _

3. Has your child repeated any grades? Yes _ _ No _ _ If yes, please indicate which grade. _ _ _ _ _

4. Has your child received any special educational supports such as participation in a learning centre/resource program, program accommodations or the development of an IPP?

Yes _ _ No _ _ If yes, please provide some details _ _ _ _ _

_ _ _ _ _

_ _ _ _ _

_ _ _ _ _

Appendix E: Information Letter for School Board

To Who It May Concern,

My name is Rodney Yang, a second year graduate student enrolled in a Master of Arts program in Educational Psychology at Mount Saint Vincent University. I'm interested in determining the nature of relationship between students' academic performance, their self-concept and their Academic Self-Concept. The study also intends to investigate the impact of parental and student attitudes on academic achievement and their relationship to Academic Self-Concept. This research project may also have important implications for school intervention programs. I sincerely hope my research will contribute to professionals in the field of education and psychology.

I am requesting your permission to undertake this research with grade 7 to 9 students in your district. If permission is granted, I'll ask the principals in the schools recommended by you if they agree and if so, to recommend teachers to distribute letters of consent to prospective participants and their parents. Data collection will take approximately one class period to complete. The questionnaires are easy-to-read, self-descriptive multiple item scales measuring specific areas of self-concept and overall self-concept. Upon completion of the questionnaires, students are instructed to return their finished surveys to the researcher. Also, as a part of my data collection, I will need access to the records on average GPA scores of the participating students.

Strict measures will be adopted to keep personal information of participating students, schools and the District confidential. No person, company, publisher, organization or any other entity except the researcher and his thesis committee members will have access to data collected. Only group data will appear in the final thesis and there will be no way to identify any individual student or school. In addition, research participants have the option of withdrawing from the study at any time. A copy of the abstract of my final thesis will be made available to you.

If you have any questions or would like to know more information about this research, please do not hesitate to contact me at (902)-441-5954, or speak to my thesis supervisor, Dr Fred French at (902)-457-6186. We'll be glad to clarify any concerns you might have. Alternatively, if you have any questions about how this study is being conducted and wish to speak with someone who is not involved in this study, you may contact Dr. Anthony Davis, Acting Chair of the University Research Ethics Board (UREB) c/o MSVU Research and International Office, via email at research@msvu.ca or telephone (902) 457-6296. The Ethical component of this study has been reviewed and approved by MSVU Research Ethics Board. Thank you for your consideration.

Sincerely,

Rodney Yang, MAEd
Graduate Education student

Fred French, Ph.D.
Thesis Supervisor

Appendix F: Information Letter for Principal

To Who It May Concern,

My name is Rodney Yang, a second year graduate student enrolled in a Master of Arts program in Educational Psychology at Mount Saint Vincent University. I'm interested in determining the nature of relationship between students' academic performance, their self-concept and their Academic Self-Concept. The study also intends to investigate the impact of parental and student attitudes on academic achievement and their relationship to Academic Self-Concept. This research project may also have important implications for school intervention programs. I sincerely hope my research will contribute to professionals in the field of education and psychology.

The district superintendent has given me permission to contact you to gain your permission to undertake this research with grade 7 to 9 students at your school. If your permission is granted, I'll ask the teachers in your school if they agree and if so, to distribute letters of consent to prospective participants and their parents. I'll arrange a class period to administer questionnaires to the participating students in an appointed classroom. Those questionnaires are easy-to-read, self-descriptive multiple item scales measuring specific areas of self-concept and overall self-concept. Upon completion of the questionnaires, students are instructed to return their finished surveys to the researcher. Also, as a part of my data collection, I will need to access the records of students for their average GPA.

Strict measures will be adopted to keep personal information of participating students, schools and the District confidential. No person, company, publisher, organization or any other entity except the researcher and his thesis committee members will have access to data collected. Only group data will appear in the final thesis and there will be no way to identify any individual student or school. In addition, research participants have the option of withdrawing from the study at any time. At the end of the study, should you be interested in obtaining a copy or abstract of my final thesis, please contact me at zabine501@hotmail.com and I'll respond to your request right away upon receipt of your email.

Finally, if you have any questions or would like to know more information about this research, please do not hesitate to contact me at (902)-441-5954, or speak to my thesis supervisor, Dr Fred French at (902)-457-6186. We'll be glad to clarify any concerns you might have. Also, if you have any questions about how this study is being conducted and wish to speak with someone who is not involved in this study, you may contact Dr. Anthony Davis, Acting Chair of the University Research Ethics Board (UREB) c/o MSVU Research and International Office, via email at research@msvu.ca or telephone (902) 457-6296. Thank you for your consideration.

Your prompt reply is very much appreciated.

Sincerely,

Rodney Yang, MAEd
Graduate Education student

Fred French, Ph.D.
Thesis Supervisor

Appendix G: Information Letter for Teacher

Dear Teacher:

My name is Rodney Yang, a second year graduate student enrolled in a Master of Arts program in Educational Psychology at Mount Saint Vincent University. I'm very interested in how self-concept is correlated with academic achievement at the junior high level and hope to conduct my Master's thesis research in this area. I sincerely hope my research would contribute to the body of literature for professionals in the field of education and psychology. The research is designed to determine the nature of the relationship between students' academic performance, their self-concept and their Academic Self-Concept. The study also intends to investigate the impact of parental and student attitudes on academic achievement and their relationship to Academic Self-Concept. This research project may have important implications for school intervention programs.

The school district superintendent and your school principal have given me permission to ask you to help in distributing information letters for parents and students, together with copies of consent forms for parents. If they agree to participate, the parents will be asked to place the signed consent forms in the enclosed envelopes and their children can return them to a drop-off in the office. After that, I'll pick up the envelopes. When informed consents are completed, I'll arrange a class period to administer questionnaires to the participating students in an appointed classroom. Those questionnaires are easy-to-read, self-descriptive multiple item scales measuring specific areas of self-concept and overall self-concept. Upon completion of the questionnaires, students are instructed to return their finished surveys to the researcher. Also, as a part of my data collection, I will need to access the records of students for their average GPA.

Strict measures will be adopted to keep personal information of participating students, schools and the District confidential. No person, company, publisher, organization or any other entity except the researcher and his thesis committee members would have access to data collected. Only group data will appear in the final thesis and there will be no way to identify any individual student or school. In addition, research participants have the option of withdrawing from the study at any time. At the end of the study, should you be interested in obtaining a copy or abstract of my final thesis, please email me at zabine501@hotmail.com and I'll respond to your request right away upon receipt of your email.

I would be grateful for your assistance in obtaining my research data and I thank you for your time. If you would like to know more about this research, please feel welcome to reach me at (902)-441-5954, or speak to my thesis supervisor, Dr Fred French at (902)-457-6186. In case you want to contact someone not directly involved with this research project, you may reach Dr. Anthony Davis, Acting Chair of the University Research Ethics Board (UREB) c/o MSVU Research and International Office, via email at research@msvu.ca or telephone (902) 457-6296. Please be sure that we'll be glad to clarify any concerns you might have. Thank you again for your consideration.

I am looking forward to hearing from you.

Sincerely,

Rodney Yang, MAEd
Graduate Education student

Fred French, Ph.D.
Thesis Supervisor

Appendix H: Information Letter for Parents/Guardians

Dear Parent/Guardian:

My name is Rodney Yang, a second year graduate student enrolled in a Master of Arts in Education program at Mount Saint Vincent University. I'm very interested in how self-concept is correlated with academic achievement at the junior high level and hope to gather data for my Master's thesis in this area. It is my hope that my research will contribute to the body of literature for professionals in the field of education and psychology.

The research is designed to examine whether there is a connection between students' academic performance, their General Self-Concept and their Academic Self-Concept. As well, I'm interested in how Student Study Habits and parent/Student Attitudes Towards School impact self-concept academic achievement.

I am asking your permission for your child to participate in this research study. If you agree that she/he can participate, please complete the parent consent form enclosed in this package. After you complete the form, please place it together with the Parental Attitudes Towards School questionnaire and the Parental Demographic Information Sheet in the enclosed envelope for your child to return to a drop off point in the main office of the school.

When I receive your permission, I'll arrange a class period at the school to administer questionnaires to the participating students in an appointed classroom. The questionnaires are easy-to-read questions measuring specific areas of self-concept and overall self-concept. Upon completion of the questionnaires, students will be asked to return their finished material to the researcher. As well, as a part of the study, I will need your permission to access the academic records of your daughter/son to determine their average grade point averages.

Strict measures will be adopted to keep personal information of participating students, schools and the District confidential. No person, company, publisher, organization or any other entity except the researcher and his thesis committee would have access to the data collected. Only group data will appear in the final thesis and no individual student or school will be identified. At the end of the study, should you be interested in obtaining a copy or abstract of the final thesis, please call me at (902) 441-5954 or email me at zabine501@hotmail.com and I'll respond to your request immediately. If you or child would like to meet with me to discuss any issues arising from this study, please call or email me at the same number/email address.

If you have any questions or would like to know more information about this research, please do not hesitate to contact me at (902)-441-5954, or speak with my thesis supervisor, Dr Fred French at (902)-457-6186. In case you want to contact someone not directly involved with this research project, you may contact Dr. Anthony Davis, Acting Chair of the University Research Ethics Board (UREB) at MSVU Research and International Office via email at research@msvu.ca or by telephone at (902) 457-6296. we would be pleased to clarify any questions you might have. Thank you for considering my request.

Sincerely,

Rodney Yang, MAEd
Graduate Education Student

Fred French, Ph.D.
Thesis Supervisor

Please complete the Parent/Guardian Consent Form below, sign and date it, detach if from the letter on the previous page and return it to the mail office of your school at your earliest convenience. A box has been placed in the Office to receive your letters.

I ----- parent/guardian of -----

in grade ----- at -----, give permission for my child

to participate in this study as explained on the previous page. I have read the preceding description and understand the nature of the research. In addition, I, -----

----- parent/guardian of ----- in grade -----

at -----, give permission for the researcher to access my

child's academic records at school to determine my child's grade point average.

Signature: ----- Date: -----

Thank you...

Appendix I: Information Letter for Student

Dear Student:

My name is Rodney Yang, a second year graduate student enrolled in a Master of Arts in Education program at Mount Saint Vincent University. I'm very interested in how self-concept is correlated with academic achievement at the junior high level and hope to conduct my Master's thesis research in this area. I sincerely hope my research will contribute to the body of literature for professionals in the field of education and psychology. The research is designed to measure whether there is a connection between students' academic performance, their General Self-Concept and Academic Self-Concept. I am expecting the results of this research will help us to better understand the dynamics of self-concept and will have important implications for enhancing many aspects of students' self-concept.

The school district and your parents have agreed that I can ask your permission to participate in this research study. If you agree to participate, I'll arrange a class period to administer the questionnaires to participating students. These scales consist of easy-to-read questions measuring specific areas of self-concept and your thoughts on study and school. Upon completion of the questionnaires, you will be asked to return finished surveys to the researcher. Also, as a part of my data collection, I will also need to access your grade point average.

Strict measures will be adopted to keep personal information of participating students, schools and the District confidential. No person, company, publisher, organization or any other entity except the researcher and his thesis committee members would have access to data collected. Only group data will appear in the final thesis and there is no way to identify any individual student or school. In addition, you have the option of withdrawing from the study at any time. At the end of the study, I will be able to meet your group and provide you with some feedback on the findings. As well, should you wish to discuss any issue arising from your participation in the study, please let me know at our meeting or by calling me at (902) 441-5954.

Finally, if you have any questions or would like to know more information about this research, please do not hesitate to contact me at (902)-445-5199, or speak to my thesis supervisor, Dr Fred French at (902)-457-6186. In case you want to contact someone not directly involved with this research project, you may reach Dr. Anthony Davis, Acting Chair of the University Research Ethics Board (UREB) c/o MSVU Research and International Office, via email at research@msvu.ca or telephone (902) 457-6296. Please be sure that we'll be glad to clarify any concerns you might have. Thank you in advance for your consideration.

Sincerely,

Rodney Yang, MAEd
Graduate Education Student

Fred French, Ph.D.
Thesis Supervisor

Appendix J: Rating Scale Conversion Method For AAA2, EAA2 And MAA2

The rating Scale conversion method to obtain Standardized average Academic Achievement Score 2 (AAA2), Standardized English Academic Achievement Score 1/2 (EAA2), Standardized Math Academic Achievement Score 1 (MAA2) 【 From Raw average Academic Achievement Score (AAA), Raw English Academic Achievement Score (EAA) and Raw Math Academic Achievement Score (MAA) to the 100 point rating scale】

Achievement level measured by number grades(5, 4, 3, 2, 1)

$$\therefore x_0 = 1$$

$$x_5 = 5$$

$$y_0 = 0$$

$$y_5 = 100$$

$$\therefore \Delta x = x_5 - x_0 = 5 - 1 = 4$$

$$\therefore \Delta y = y_5 - y_0 = 100 - 0 = 100$$

$$\therefore \frac{dy}{dx} = \frac{\Delta y}{\Delta x} = \frac{100}{4} = 25$$

$$\therefore \int \frac{dy}{dx} dx = \int 25 dx$$

$$\int dy = \int 25 dx$$

$$y = 25x + C$$

$$\therefore x_0 = 1 \quad y_0 = 0$$

$$\therefore C = -25$$

$$\therefore y = 25x - 25$$

$$\therefore \text{AAA2} = 25 * (\text{AAA}) - 25$$

$$\therefore \text{EAA2} = 25 * (\text{EAA}) - 25$$

$$\therefore \text{MAA2} = 25 * (\text{MAA}) - 25$$

Appendix K: Rating Scale Conversion Methods For ssgl2 and Subscale Variables

The rating Scale conversion method to obtain Standardized Global Self-Concept Score 2 (ssgl2) 【From Raw Global Self-Concept Score (GSC) to the 100 point rating scale】 .

∴ Defensive subscale has 8 items

∴ $0 \leq \text{range of Raw Global Self-Concept Score} \leq 67 - 8 = 59$

∴ $x: x_0 = 0 \quad x_1 = 1 \quad \dots \quad x_{59} = 59$

$y: y_0 = 0 \quad \dots \quad y_{59} = 100$

∴ $\Delta x = x_{59} - x_0 = 59 - 0 = 59$

∴ $\Delta y = y_{59} - y_0 = 100 - 0 = 100$

∴ $\frac{dy}{dx} = \frac{\Delta y}{\Delta x} = \frac{100}{59}$

∴ $\int \frac{dy}{dx} dx = \int \frac{100}{59} dx$

$\int dy = \int \frac{100}{59} dx$

$y = \frac{100}{59}x + C$

∴ $x_{59} = 59 \quad y_{59} = 100$

∴ $y_{59} = \frac{100}{59}x_{59} + C$

∴ $100 = \frac{100}{59} * 59 + C$

∴ $C = 0$

∴ $y = \frac{100}{59}x$

ssgl2 = $100 * (\text{GSC}) / 59$

∴

Likewise, hereby are a series of formulas to obtain Standardized Academic Self-Concept Score 2 (ssac2), Standardized General Self-Concept Score 2(ssge2), Standardized Parental/Home Self-concept Score 2 (ssph2), Standardized Personal Self-concept Score 2(sspe2), Standardized Social Self-Concept Score 2 (ssso2). 【From Raw Academic Self-Concept Score (SAC), Raw General Self-Concept Score (SGE), Raw Parental/Home Self-concept Score (SPH), Raw Personal Self-concept Score (SPE), Raw Social Self-Concept Score (SSO) to the 100 point rating scale】 .

$\therefore 0 \leq \text{range of Raw Academic Self-Concept Score} \geq 10$

$$\therefore y = 10x$$

$\therefore 0 \leq \text{range of Raw General Self-Concept Score} \geq 11$

$$\therefore y = \frac{100}{11}x$$

$\therefore 0 \leq \text{range of Raw Parent/Home Self-Concept Score} \geq 12$

$$\therefore y = \frac{25}{3}x$$

$\therefore 0 \leq \text{range of Raw Personal Self-Concept Score} \geq 14$

$$\therefore y = \frac{50}{7}x$$

$\therefore 0 \leq \text{range of Raw Social Self-Concept Score} \geq 12$

$$\therefore y = \frac{25}{3}x$$

$$\therefore \text{ssac2} = 10 * (\text{SAC})$$

$$\therefore \text{ssge2} = 100 * (\text{SGE}) / 11$$

$$\therefore \text{ssph2} = 25 * (\text{SPH}) / 3$$

$$\therefore \text{sspe2} = 50 * (\text{SPE}) / 7$$

$$\therefore \text{ssso2} = 25 * (\text{SSO}) / 3$$

Appendix L: Rating Scale Conversion Methods For PA2, SA2 And SH2

The rating Scale conversion method to obtain Standardized Student Attitudes towards School Score 2 (SA2), Standardized Parental Attitudes Towards School Score 2 (PA2), Standardized Study Habit Score 1 (SH2). 【From Raw Student Attitudes Towards School Score (SA), Raw Parental Attitudes Towards School Score (PA) and Raw Standardized Study Habit Score (SH) to the 100 point rating scale】

Rating scale $X : 10 - 50$ (Range=40) $N_x = 41$

Rating scale $Y : 0 - 100$ (Range=100) $N_y = 101$

$$X \quad x_0 = 10 \quad x_1 = 11 \quad x_{50} = 50$$

$$Y \quad y_0 = 0 \quad y_{50} = 100$$

$$\therefore \Delta x = x_{50} - x_0 = 50 - 10 = 40$$

$$\Delta y = y_{50} - y_0 = 100 - 0 = 100$$

$$\therefore \frac{dy}{dx} = \frac{\Delta y}{\Delta x} = \frac{100}{40} = 2.5$$

$$\therefore \int \frac{dy}{dx} dx = \int 2.5 dx$$

$$\int dy = \int 2.5 dx$$

$$y = 2.5x + C$$

$$\therefore x_{50} = 50 \quad y_{50} = 100$$

$$\therefore 100 = 2.5 * 50 + C$$

$$\therefore C = -25$$

$$\therefore y = 2.5x - 25$$

$$\therefore SA2 = 2.5(SA) - 25$$

$$\therefore PA2 = 2.5(PA) - 25$$

$$\therefore SH2 = 2.5(SH) - 25$$

Appendix M: Rating Scale Conversion Method For PE2

The rating Scale conversion method to obtain Standardized Parent Education Score 2 (PE2) 【From Raw Parental Education (PE) to the 100 point rating scale】 .

∴ SHS = Some High School ($7 \leq \text{range} \leq 11$)

∴ $M_{SHS} = 9$

∴ HS = High School Graduation

∴ $M_{HS} = 12$

∴ SCU = Some College/University ($13 \leq \text{range} \leq 15$)

∴ $M_{SCU} = 14$

∴ $GFCCC$ = Graduation from Community College/Certification ($14 \leq \text{range} \leq 16$)

∴ $M_{GFCCC} = 15$

∴ UG = University Graduation

∴ $M_{UG} = 16$

∴ $GSAA$ = Graduate School and Above ($17 \leq \text{range} \leq 22$)

∴ $M_{GSAA} = 18$

∴ $0 \leq \text{range of Raw Parental Education} \leq 67 - 8 = 59$

∴ $x: x_0 = 7$

$x_{15} = 22$

$y: y_0 = 0$

$y_{15} = 100$

∴ $\Delta x = x_{15} - x_0 = 22 - 7 = 15$

∴ $\Delta y = y_{15} - y_0 = 100 - 0 = 100$

∴ $\frac{dy}{dx} = \frac{\Delta y}{\Delta x} = \frac{100}{15} = \frac{20}{3}$

∴ $\int \frac{dy}{dx} dx = \int \frac{20}{3} dx$

∴ $y = \frac{20}{3}x + C$

∴ $x_0 = 7 \quad y_0 = 0$

∴ $y_0 = \frac{20}{3}x_0 + C$

∴ $C = -\frac{140}{3}$

∴ $y = \frac{20}{3}x - \frac{140}{3}$

∴ For Some high School: $PE2 = \frac{20}{3} * M_{SHS} - \frac{140}{3} = 40/3 =$

∴ For high School Graduation: $PE2 = \frac{20}{3} * M_{HS} - \frac{140}{3} = 100/3 =$

∴ For Some College/University: $PE2 = \frac{20}{3} * M_{SCU} - \frac{140}{3} = 140/3 =$

∴ For Graduation From Community College/Graduation:

$$PE2 = \frac{20}{3} * M_{GFCCC} - \frac{140}{3} = 160/3 =$$

$$\therefore \text{For University Graduation: } PE2 = \frac{20}{3} * M_{UG} - \frac{140}{3} = 60$$

$$\therefore \text{For Graduate School and Above: } PE2 = \frac{20}{3} * M_{GSAA} - \frac{140}{3} = 220/3$$