ENGLISH AS A SECOND LANGUAGE (ESL) STUDENT SELF-CONCEPT:
ITS RELATION TO TEACHER PERCEPTION AND ACADEMIC ACHIEVEMENT -
AN EXPLORATORY STUDY

by

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ABSTRACT

The purpose of this exploratory study as it applies to ESL students was two-fold: To examine the relationship between ESL student self-concept and teacher perception of student self-concept and to examine the extent to which student self-concept and teacher perception of student self-concept relate to academic achievement in reading and mathematics. The Self-Description Questionnaire-1 (SDQ-1) was completed by 57 fifth- and sixth-grade students, ages 10-12 years and their teachers. The teachers' ratings of ESL student academic achievement were gathered along with student and school background information. Results of descriptive statistics, t-test comparisons, and correlational analyses indicate that the pattern of ESL students' self-concepts were consistently lower than those for the normative sample, except in the area of math, with noted similarities in highest (parent relations) and lowest (physical appearance) self-concept areas. Teacher perception ratings appeared more similar to the ESL students' self ratings than to the normative sample. Teachers tended to rate ESL students' self-concepts higher than the students rated themselves. In contrast to previous research with the SDQ-1, the strongest agreements between ESL students and teacher perceptions were in nonacademic areas. Correlations between ESL students and academic achievements were mostly nonsignificant and negative, while correlations between teacher perceptions and academic achievement were mostly significant and positive. Sex, ethnic group affiliation, school district, and birth place differences were also noted. While conclusions remain
speculative, more research is needed in the area of language proficiency, environmental factors, and cultural differences which may impact, not only the students' self-concept of themselves, but also on teacher perceptions of ESL students' self-concept and their academic achievement.
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I. INTRODUCTION

The development of a positive self-concept is assumed to be both a goal and an outcome of the educational environment for all children:

Schools can and do encourage young people to develop a sense of their own self-worth, to find personal challenge in the world around them, to find satisfaction in their own achievements, and to understand their own individuality... Their basic needs have not changed much across the centuries, whether those needs are expressed in elemental form in terms of food, shelter, or affection, or whether they are expressed as psychological needs for self-esteem and self-worth as students meet the challenges of everyday life... That youngsters have always needed certain skills and bodies of knowledge to operate successfully in society and to nourish their self-esteem is not in question... general agreement exists that the child's overall welfare should also be considered. Presentations to this Commission mentioned the importance of children's social development, the development of their self-concepts, and the development of their moral standards. Such educational goals are generally seen as necessary to prepare students to live in a world characterized by change and to help them adapt to this change in order to lead full and responsible lives.

(The Report of the Royal Commission on Education, 1988, p.70, 77, & 78)

While considerable attention in educational psychology has focused on the cognitive and instructional aspects of human learning, relatively few empirical studies have investigated the influence of affective factors in learning, achievement, and assessment in the area of ethnic minorities. Furthermore, although the importance of self-esteem has been an implicit and persistent theme underlying multicultural and multilingual literature in education, empirical research based on the dominant Canadian ethnic minorities is scarce.
Recent interest in children's self-concept formation, its development and relation to learning outcomes has resulted in issues such as the relationships among academic self-concept, inferred teacher perceptions of academic ability and specific school achievement being addressed. However, the extent to which these variables are applicable to the learning outcomes of children for whom English is a second language remains unanswered.

A. BACKGROUND TO THE PROBLEM

The purpose of this investigation as it applies to English as a second language (ESL) students is two-fold:

1. To examine the relationship between a student's self-concept and teacher perception of that student's self-concept; and

2. To examine the extent to which student self-concept and teacher perception of student self-concept relate to academic achievement in Reading and in Mathematics.

Three bodies of knowledge need to be addressed, in order to deal with these issues:

1. The self-concept or self-esteem literature;

2. The ESL student assessment literature; and

3. Previous self-concept studies involving minorities.

These areas will be discussed briefly in the following section and more explicitly in Chapter II.
B. THE SELF-ESTEEM LITERATURE

1. Self-Concept and Teacher Perception

Controversy surrounds the relationship and use of self-concept and inferred ratings by teachers. Some theorists suggest that self-concept is a "looking glass" reflection of perceptions about how one appears to others (Cooley, 1902; Kinch, 1963; Mead, 1934; Shrauger & Schoeneman, 1979). This implies that self-perceptions and the perceptions of others should be strongly correlated and that changes in the perceptions of others will lead to changes in self-concept.

Others suggest that self-reports and ratings by others are phenomenologically distinct and will agree only when the external observer knows the person well, observes a wide range of behaviors, has observed a broad enough sample of people to have an adequate frame of reference, and is able to make skillful perceptions (Crandall, 1973; Marsh, Parker, & Smith, 1983; Marsh, Smith, & Barnes, 1984; Shavelson, Hubner, & Stanton, 1976; Wells & Marwell, 1976).

The role of the teacher as significant other in the formation and development of children's school related self-concept appears to have an effect on student attitude and success both in school and in society:

Schools also communicate subtle (and sometimes not so subtle) messages to ESL students regarding the value of their prior experiences and the appropriateness of their language and culture within the Canadian context. Research suggests that students who are valued by the wider society (and by the schools that inevitably tend to reflect that society) succeed to a greater extent than students whose backgrounds are devalued.

Furthermore, teacher ratings are probably the most important source of information about children in the school. Decisions that affect children are most often based on the evaluations and recommendations of teachers in a variety of areas. These may be influenced by the teacher's perceptions of the student's self-concept.

2. Self-Concept and Academic Achievement

The importance of self-concept in academic achievement has also been of long debate (Burns, 1979; Hansford & Hattie, 1982; Marsh, 1986; Shavelson & Bolus, 1982; Wylie, 1979). Controversy has focused around two major areas. Firstly, the causal relationship between self-concept and achievement remains uncertain (Calysn & Kenny, 1977; Scheirer & Kraut, 1979; Wylie, 1979). Secondly, self-concept theorists continue to disagree as to the relative importance of global versus multidimensional theoretical models to define self-concept (Coopersmith, 1967; Harter, 1982, 1983, 1985; Marsh & Shavelson, 1983; Marx & Winnie, 1978; Piers & Harris, 1969; Purkey, 1970; Shavelson et al., 1976; Soares & Soares, 1969).

In the past, major consideration has been given to the role of global self-concept and its relation to academic achievement. However, more recent research has offered support for the multidimensional and hierarchical nature of self-concept. For example, although the results of an extensive meta-analysis (Hansford & Hattie, 1982) suggested only a low positive correlation between self-concept and ability, the results of the study also reinforced findings that reported larger positive
correlations between self-concept of ability and achievement measures than those reported for global self-concept measures (Shavelson et al., 1976; Wylie, 1979).

Several alternative multidimensional models of self-concept have recently been put forth by theorists and investigators who argue that a unidimensional or single-score approach may mask important distinctions that children make in various areas of their lives (e.g., Harter, 1982, 1983; Shavelson, Hubner, & Stanton, 1976). According to the model proposed by Harter (1982), the self is depicted as a profile of evaluative judgments across five separate domains. According to the model proposed by Shavelson et al. (1976) and later revised by Marsh and Shavelson (1985), academic achievement measures should be more highly correlated with academic self-concept than with general self-concept and academic achievement in particular areas should be most highly correlated with self-concept in the same area; less correlated with self-concept in other academic areas; and least correlated with self-concepts in nonacademic areas. For the purpose of the present study, the Shavelson model will be adopted.

3. The Shavelson Model

The multidimensional and hierarchical model of self-concept proposed by Shavelson et al. (1976) and revised by Marsh and Shavelson (1985) will be adopted for the purpose of this study. Reasons for choosing this model include:

1. The multidimensional and hierarchical model appears to allow for a comparison of global and specific academic
self-concepts which may be obscured by the use of a
global theoretical model alone.

2. There appears to be strong support for this model in the

3. The structure of this model differentiates among seven
domain specific areas. A second, more general level,
defines self-concept in terms of academic English,
academic Math, and nonacademic self-concepts. General
self-concept is at the apex of the hierarchy. Recent
psychoeducational assessment research with ESL students
suggests similar trends in the cognitive or IQ profile
on the WISC-R (Cummins, 1984). The multi-dimensional
and hierarchical arrangement of self-concept may help to
explain the pattern of verbal-performance discrepancy
typically found with ESL students (Lynn, Paglieri, &
Chan, 1988; Tam, 1990).

4. The specificity of the model allows multiple and
possibly different self-concepts in various academic and
nonacademic areas. It is suggested that the
multilingual and multicultural child may have multiple
"selves" and that choosing an identity may be
complicated by having grown-up in two cultures whose
values are often very different (Lambert, 1981).
Furthermore, it has been suggested by Lambert that ESL
students who work out these conflicts:

... retain pride in their home culture as well as in
Canadian culture as a whole and feel able to identify
with both. Ideally, students will be able to see the
strengths and weaknesses of both cultures and use the
strengths of both as a foundation for choosing their own values and identities. From the point of view of language learning, these students are likely to be motivated to develop their proficiency in both English and their L1 (first language).


5. The possibility exists that this multifaceted distinction may help teachers make more adequate self-concept judgements about their students without obscuring the results based on nonacademic inferences in areas about which teachers are generally less familiar.

6. Also, findings derived from multidimensional self-concept ratings may yield significant and specific information about a student's needs, which, in turn, may influence important programming decisions.

C. ENGLISH AS A SECOND LANGUAGE LITERATURE

A growing body of research over the last 20 years has centered around the issues and policies related to second language acquisition, testing, placement and counselling of Canadian ethnic minorities (Collier, 1987, 1989; Cummins, 1981, 1984, 1986; Samuda, 1975, 1985; Samuda & Crawford, 1980; Samuda, Kong, Cummins, Pascual-Leone, & Lewis, 1989). The use of psychological tests with immigrant minorities, the large proportion of ethnic minorities in special education classes and the assumptions underlying such testing and placement decisions have been of major controversy (Samuda & Crawford, 1980; Samuda et al., 1989; Sattler, 1986; Tam, 1990).

Studies suggest that depending on age of arrival, it takes four to eight years, with an average of five, for limited English
proficient immigrant students to reach the national grade-level norms of native speakers. This occurs in all subject areas of language and academic achievement as measured on standardized tests (Collier, 1987, 1989; Cummins, 1981, 1984). Research regarding language acquisition, proficiency, age relationships, and approximations to national grade level norms for Canadian-born ethnic minorities, however, appears to be sadly lacking although, according to 1988 survey by the External Review Team of Vancouver School Board's ESL Programs, approximately 46.9 percent of students within the Greater Vancouver area may be considered ESL. Recently, some of these factors have begun to be addressed particularly in an attempt to clarify issues regarding the cognitive assessment of local Chinese immigrant students (Lynn, Paglieri & Chan, 1988; Tam, 1990). However, the importance of affective characteristics appears to be generally overlooked in the ESL student assessment literature.

D. SELF-CONCEPT STUDIES WITH MINORITIES

Research with ethnic minorities and self-concept appears to be scarce. Most investigations which have been reported have centered around the ethnic identity of Afro-Americans in the United States. Findings are contradictory as to whether significant differences exist between the self-concepts of whites and nonwhites at all levels of schooling (e.g., Goldman and Mercer, 1976; Hansford & Hattie, 1982; Soares & Soares, 1969; Zirkel, 1971). Findings involving students from other minority groups are less numerous but also contradictory, Mexican-Americans
having received the most attention (Iheanacho, 1988; Wilkinson & Burke, 1985; Zirkel, 1971). These contradictions may be due to differences of definitions, instruments and research designs. In many cases, the dominant culture has displayed possible discriminatory judgements directed toward the minority culture (Wilkinson & Burke, 1985).

In Canada, self-concept as it relates to minorities is almost nonexistent (Akootie, 1984). The literature is dominated by studies that concern themselves with examining the social transitions these groups face.

E. STATEMENT OF THE PROBLEM

Theoretical and empirical research suggests the importance of self-esteem in academic achievement, specifically in second language acquisition. The literature also suggests a relationship among self-concept, teacher perception and academic achievement for many students. However, studies with ethnic minorities which investigate the relationship among and between these variables appear to be limited at best. The questions to be explored then are:

1. What is the self-concept of the ESL student?

2. What is the teacher perception of that ESL student's self-concept?

3. What is the relationship between the ESL student's self-concept and teacher perceptions of that student's self-concept; and to what extent do they agree?
4. What is the relationship between the ESL student's self-concept and the student's academic achievement in Reading and in Mathematics; and to what extent do they agree?

5. What is the relationship between teacher perception of the ESL student's self-concept and the student's academic achievement in Reading and in Mathematics; and to what extent do they agree?

E. DEFINITION OF TERMS

1. ESL
   English as a second language, also multilingual or multicultural, ethnic minority refers interchangeably to both the immigrant and the Canadian-born student whose first language is not the majority language, English, or who may have learned another language concurrently with English.

2. Self-Concept
   The construct self-concept, broadly defined, is a person's perceptions of him or herself. These perceptions are formed through one's experience with and interpretations of one's environment and may be influenced especially by reinforcements, evaluations by significant others, and one's attributions for one's own behavior. Self-concept is multifaceted and hierarchically organized. It is both descriptive and evaluative and indistinguishable from self-esteem (Shavelson, Hubner, & Stanton, 1976).
3. Academic Self-Concept

Academic self-concept refers to the self perception of one's academic ability. It is separated into two distinct facets: verbal self-concept and math self-concept. A third facet, general-school self-concept also includes other school-related subjects and combines with verbal and math self-concepts in the formulation of academic self-concept (Marsh & Shavelson, 1985). A person's definition of academic ability is believed to develop over a series of learning experiences involving the judgments of significant others concerning one's performance and capabilities. In turn, one's sense of academic self-worth helps to determine the degree of enthusiasm and motivation a person invests in future academic tasks (Chapman & Boersma, 1980).

4. Academic Achievement

Academic achievement refers to a measure or index of academic or school performance. It is usually associated with academic ability and corresponds to a measure of learning outcome.

G. SIGNIFICANCE OF THE STUDY

The present exploratory study of ESL student self-concept has instructional, theoretical, and clinical relevance for educational research and practice. It is especially significant because the investigation focuses on Canadian minority groups. Immigrant ethnic minority representation has risen dramatically in British Columbia schools in the last decade. This trend is projected to
continue for the 1990's, increasing the need for research in this area (Ashworth, Cummins, & Handscombe, 1989).

Instructional research regarding teacher perception of ethnic self-concept may provide information that could facilitate communication and understanding between the ESL student and the teacher.

Theoretically, the study may represent a potential test of the self-concept model proposed by Shavelson, Hubner, and Stanton (1976); Shavelson and Bolus (1982); and revised by Marsh and Shavelson (1985). The present investigation uses the Self Description Questionnaire-1 (SDQ-1), a multidimensional self-concept instrument developed by Marsh (1988) and derived from this model. The current study reflects the need for research in the area of minority self-concept and its relation to teacher perception and academic achievement.

Clinically, this investigation may have implications for school psychologists and counsellors. It could shed light on the importance and interpretation of affective measures as part of a psychoeducational battery used for decisions regarding the assessment, placement and program evaluation of ESL students. This is important due to the current overrepresentation of minorities in special education classes and the changing multicultural/multilingual mosaic evidenced in British Columbia schools (Report of the External Review on the Vancouver School Board's ESL Program, 1989; The Report of the Royal Commission on Education, 1988).
H. SUMMARY OF CHAPTER I

The present study attempts to explore the issue of ESL student self-concept as it relates to inferred teacher perception of student self-concept and specific academic achievement. This investigation may provide insight to the extent these variables are related and to the extent to which they relate to the learning outcomes that contribute to the ESL student's school success.

Chapter II reviews the literature pertaining to the research questions outlined in Chapter I.
II. REVIEW OF THE LITERATURE

This chapter deals with a review of the literature that pertains to the following generalized problem statements:

1. What is the relationship between the ESL student's self-concept and teacher perception of that student's self-concept?

2. To what extent do the ESL student's self-concept and teacher perception of that student's self-concept relate to academic achievement in Reading and in Mathematics?

In order to develop the literature review, the role and importance of self-concept variables in school learning are considered. The theoretical model of self-concept conceived by Shavelson and the subsequent development of the assessment tool, the Self Descriptive Questionnaire (SDQ), is briefly outlined and its use with various age groups is presented. Inferred ratings by teachers are discussed, as well as the relationship of self-concept and academic achievement. Current theory and research in the area of bilingualism, second language acquisition, special education, and the psychoeducational assessment of English as a second language (ESL) students are considered. Previous studies related to minority group self-concept are presented. The chapter concludes with a brief summary of the research reviewed and a statement of the significance of the present investigation as it relates to the areas of interest, specifically ESL student self-
concept, its relation to teacher perception and academic achievement.

A. SELF CONCEPT

In the introduction to her 1989 review, *Measures of Self-Concept*, Wylie noted that:

"...the flood of research directed toward phenomenological or conscious self-conceptions has continued, and self-esteem in particular has been considered by both laypersons and professionals to be of great importance in accounting for human behaviour and to be a function of a very wide array of variables." (p. 2)

The plethora of popular 'self-help' publications or numerous evaluations in the literature attempting to establish the psychometric adequacy of measures of self-conception are indicative of the continued interest and importance placed on understanding the self-concept.

The literature abounds with an array of terms that theorists have constructed and employed to refer to the self-concept. At times, they refer to the same phenomena of self-concept and, at times, to different phenomena. Terms and concepts such as self-love, self-confidence, self-respect, self-acceptance, self-evaluation, and self-worth are just some of the most commonly employed. In her review of measures of self-concept, Wylie (1974) attempted to devise a concept that would subsume the meanings of the above terms. She preferred to call it 'self-regard' as an inclusive term that would be less specific and less theory bound. However, the term self-esteem has dominated the literature as the most popular. Relative agreement has emerged that studies and
theories dealing with these concepts be referred to as the 'self-esteem literature'. On the basis of their review, Wells and Marwell (1976) also prefer the term self-esteem because the concept is general enough to provide a type of common thread to encompass a diversity of approaches and styles. For the purpose of this discussion the term 'self-concept' has been chosen with an understanding that others may utilize different terminology.

Self-theory is phenomenological in nature and is based on the principle that a person reacts to the world in a manner that is based on his or her perception of it. An important feature of a person's world is his or her own self, the self that he or she perceives and experiences. The perceived self is what Fitts (1965) calls self-concept. There is a tendency to assign values to an individual's perception. It is the value that one places on the perception of one's self that is called self-esteem. Wells and Marwell (1976) argue that there is no universal definition of self-esteem. Instead, there are differences in orientation and theoretical emphasis. While some stress the behavioural components, others stress the cognitive ones. Some define self-concept in unidimensional terms and other in multidimensional terms. Fitts (1965), Harter (1982, 1983, 1985), Shavelson et al. (1976), and Marsh and Shavelson (1985), for example, feel that self-concept is complex and that a single scale is unwarranted and inadequate.

For the purpose of the present study, the Shavelson model of self-concept will be adopted. A brief explanation of the theoretical basis underlying the Shavelson model, including a discussion of its proposed multifaceted and hierarchical nature
and an outline of some of the studies conducted in support of the model, will be presented in the following sections.

B. SHAVELSON MODEL OF SELF-CONCEPT

Historically, controversy and debate has surrounded most of the area composing the 'self-concept/self-esteem' literature. There has been uncertainty, not only about the relationship between self-concept and achievement, but also about the relationship between self-concept and inferred ratings by others. Similarly, there has been disagreement about the directionality of these relationships, should causal relationships be indicated. There is also disagreement as to the relative importance of global versus multidimensional models self-concept.

Despite the controversy, reviewers of previous self-concept studies (Shavelson, Hubner & Stanton, 1976; Wylie, 1979; 1989) have attributed the general lack of consensus in the area of the self-esteem literature to the following: (a) imprecise definitions which lack a clear theoretical basis, (b) numerous and psychometrically inferior instruments, and, (c) inappropriate methodological procedures. Consequently, more recent researchers have sought to validate both the conceptual structure known as self-concept and the instruments designed to measure it (Byrne, 1984; Marsh & Shavelson, 1985; Byrne & Shavelson, 1986; Shavelson & Marsh, 1986). Recent reviews of this research (Byrne, 1984; Marsh & Shavelson, 1985; Shavelson & Marsh, 1986) indicate that self-concept cannot be adequately understood if its multidimensionality is ignored. In an attempt to remedy this
situation, Shavelson, Hubner, and Stanton (1976) reviewed specific criteria for evaluating self-concept measures and proposed a multifaceted, hierarchical model which served as the basis for the preadolescent Self-Description Questionnaire-1 (SDQ-1) used in this study. The Self-Description Questionnaire-1 is an eight scale instrument intended to measure seven aspects of the self-concepts of preadolescent children (ages 7-13 years) as well as their general sense of self-worth. The Self-Description Questionnaire-II and the Self-Description Questionnaire-III were later developed to measure the self-concepts of older children and young adults.

The Shavelson model (Shavelson, et al., 1976) and later revision by Marsh and Shavelson (1985) is represented in Figure 1. According to this model, self-concept, broadly defined, is a person's perceptions regarding him or herself. These perceptions are formed through experience with and interpretations of one's environment. They are especially influenced by the evaluations of significant others, reinforcements, and attributions for one's own behaviour. Furthermore, self-concept is defined by seven major features:

1. It is organized, or structured, into categories that relate to one another.
2. It is multifaceted so that the particular facets reflect a self-referent category system adopted by a particular individual and/or shared by a group.
3. It is hierarchical so that perceptions of personal behaviour at the base move to inferences about self in
superordinate areas, and then to inferences about oneself in general.

4. General self-concept which is at the apex of the model is stable but, as one descends the hierarchy self-concept becomes increasingly situation specific and, as a consequence, less stable.

Figure 2-1

Structure of Self-Concept

5. Self-concept becomes increasingly distinct, or multifaceted, with age as the individual moves from infancy to adulthood.

6. Self-concept is both descriptive ("I am happy") and evaluative ("I do well in mathematics").

7. It can be differentiated from other constructs such as academic achievement.

According to this revised, multifaceted and hierarchical model, general self-concept (a higher-order factor) appears at the apex and is divided into academic and nonacademic self-concepts (also higher or second-order factors) at the next level. Academic self-concept is then broken down into two specific areas, Reading/English or Verbal and Mathematics. Finally, self-concepts are broken down into seven first order factors - three particular subject areas or factors (reading, math, general school) and four specific nonacademic areas or factors (physical ability, physical appearance, peer relationships, and parent relationships).

This model of self-concept implies that the closer to the base of the hierarchy, the more situation specific becomes each facet of self-concept. Therefore, self-concept of academic ability should be more closely related to academic achievement than to ability in social and physical situations.

C. STUDIES IN SUPPORT OF THE SHAVELSON MODEL

The seven hypothesized factors, originally proposed in the Shavelson model, have been replicated in more than a dozen factor

1. The Structure of the Self-Concept

1.a. Multifaceted Hierarchy

The Shavelson model posits that self-concept is multifaceted and also hierarchically ordered. The factor structure was tested with a single summary factor analysis performed on all 3,562 responses to the SDQ-1 included in the normative data base. Responses to positively worded items from the original seven factors were used: eight positively worded items from each of the seven scales were divided into four item pairs and factor analyses were performed on the 28 item pairs using SPSS program (See Marsh, Barnes, Cairns & Tidman, 1984; Marsh & O'Neill, 1984). The results clearly identified each of the seven SDQ-1 factors. The largest correlations occurred among the first three nonacademic factors and between the General-School and the two other academic self-concept factors (Math and Reading), consistent with the hypothesized hierarchical ordering as proposed by Shavelson et al. (1976).

Assumptions that self concept becomes more distinct with age were tested in a series of exploratory factor analyses on a sample of 658 students in grades two to five (Marsh, Barnes, Cairns, and
Responses to the 28 item pairs were analyzed separately at each grade level. The results indicated seven factors which were identified at each grade level, and the factor loadings for each variable were consistently high on each factor it was designed to measure while low on the other factors. The factors were especially well-defined for grades four and five. The separation among academic factors was less clear for grades two and three. At each grade level, highest correlations tended to be between General-school and other academic factors and among the factors measuring nonacademic dimensions. There was a consistent decline with age in size of correlation among factors and the median correlation among factors declined with increasing grade level (Marsh, Barnes, Cairns & Tidman, 1984). The Marsh et al.(1984) findings strongly support assumptions of a multifaceted, hierarchical self-concept, and subsequent interpretations based on the SDQ scales by indicating that the scales measure distinct factors that are related in theoretically defined ways.

The Shavelson model and the SDQ-1 upon which it is based assume a systematic hierarchical ordering of the self-concept facets which underlie the correlations among the first-order factors. However, data suggest that the higher order structure underlying the SDQ factors may be more complicated than previously thought. Shavelson hypothesized that the seven first-order factors would form two-second order factors, Nonacademic and Academic. However, for example, Parent Relations highly correlated with some of the academic factors as well as with the nonacademic ones and, although Mathematics and Reading factors
were substantially correlated with the General-School factor, they were nearly uncorrelated with each other.

Four competing higher order factor models were developed to test alternative configurations of the higher order factor structure underlying first-order factors to explain the hierarchical structure of the seven SDQ-1 factors. In separate analyses of the data at each grade level, the second-order academic self-concept factors (Math Academic and Reading Academic) were posited to fit the data significantly better than any of the other second-order models (Marsh & Shavelson, 1985).

Although the model is most consistent with the Shavelson et al. (1976) assumption that self-concept is hierarchically ordered, the particular form of this higher order structure appears more complicated than first proposed. Specifically, there seems to be a clear separation of Reading and Math self-concepts so that they cannot be incorporated into a general academic self-concept.

1.b. **The General Self-Concept**

There are many different definitions of what constitutes general self-concept. Largely, this construct is inferred and it is typically ill-defined and probably the basis of much of the confusion surrounding the self-concept research (Marsh, 1986b; Marsh & Shavelson, 1985).

Most early investigations regard self-concept as a unidimensional construct represented with a single, global score called 'overall, total, or general self-concept' (Wylie, 1974, 1979, 1989). The most common, an agglomerate self-concept, is a vaguely defined total score for a broad cluster of diverse self-
report items which lack a coherent focus. Responses are often just summed to form a total score. When a total score is used, considerable information is lost by averaging across scores representing reasonably independent facets of self-concept. If only agglomerate self-concept is considered, the multidimensionality of self-concept is ignored. Such a construct cannot be adequately characterized and is idiosyncratic to a particular instrument. For example, Marsh and Smith (1982) suggest that this agglomerate use of self-concept is particularly dubious and probably led to many of the contradictory findings which abound in the self-concept research.

A second use of the term general self-concept involves scales that are specifically designed to measure relatively unidimensional constructs that are superordinate to specific facets of self-concept. Items in such scales refer to a general sense of self-worth or self-competence that could be applied in different areas rather than self-concept in specific facets. This is the approach used by Rosenberg (1965, 1979) and Harter (1982, 1983) and the General-Self scales on the SDQ instruments developed for use with older students.

The third use includes the general self-concept that appears at the apex of the Shavelson model and the general factor in the second-order factor analyses of the SDQ-1. Here, general self-concept refers to an inferred construct which is not directly measured (Marsh, 1986b; Marsh & Shavelson, 1985). Unlike the other two uses, this general self-concept cannot be tied to a specific set of items but is an unobserved construct that, itself, is defined by unobserved constructs (i.e., it is a 'higher order
factor'). In this way, the General-Self infers a general, or overall, positive self-perspective that is not specific to any particular facet of self-concept but could be applied to each specific facet of the self. It refers to a person's rating of him or herself as an effective, capable individual who is proud and satisfied with the way he or she is. The original version of the SDQ-1 did not contain the General-Self scale. Its inclusion came about to provide a better basis of comparison between SDQ research and other self-concept research.

The use of the revised SDQ-1 by Marsh, Smith, and Barnes (1985) examined the responses of 559 fifth-grade students. A factor analysis of the responses clearly identified each of the eight factors which the revised SDQ-1 was designed to measure. Although the General-Self factor was modestly correlated with each of the other seven factors and more highly correlated with responses to nonacademic than academic factors, it appeared reliably distinct from the other facets of self-concept.

In the SDQ-1 manual (Marsh, 1988a) caution is advised in interpretations based on the General-Self scale as neither the theoretical nor the empirical basis for it is, as yet, well established compared to the original seven facets. There is a need for theoretical and empirical research to justify and define overall and general self-concept.

2. **Age and Sex Differences**

The examination of how self-concept varies with age and sex is frequently of concern to self-concept researchers. In her 1979 review, Wylie summarized research prior to 1977 and concluded that
there was no convincing evidence for any age effect, positive or negative, in overall self-concept within the age range of 6 to 50 years. She also suggested that, although there was no evidence for sex differences in overall self-concept at any age level, sex differences may be lost when items are summed to obtain a total score. Since then, however, other researchers have provided evidence of differences in self-concept related to both age and sex.

Firstly, in the area of age related studies, Dusek and Flaherty (1981), in a longitudinal study of adolescent self-concept found no systematic age effects. Other research, however, suggests that self-concept may decline during preadolescence and, perhaps, early adolescence. It appears that the very positive self-concepts of the youngest children are unrealistically high and become more realistic through additional life experiences. For example, Eshel and Klein (1981) in a cross-sectional study of self-concepts in grades 1 to 4 found a sharp decline in general self-concept with age. Other researchers have also reported a significant age effect in self-perceptions of ability in different areas. For example, Nicholls (1979) asked children, ages 6 to 12 years, to rank their reading ability compared to their classmates and found that rankings declined with age. Stipek and Stipek (1981) as well as Stipek and Tannatt (1984) found that children's self-perceptions of their 'smartness' dropped between kindergarten and grade 3. Ruble, Boggiano, Feldman, and Loebl (1980) reported that self-ratings in a physical ability task were negatively correlated with age in grades 2 to 4. Meece, Parsons, Kaczela, Goff, and Futterman (1982) found that there was a steady decline
in mathematics self-concept between the junior high and high school years and that the drop for females begins sooner and is larger. Marsh, Parker, and Barnes (1985) found that, for most of the SDQ-11 scales, high school student responses demonstrated a decline between grades 7 and 9, then levelled out, and increased between grades 9 and 11. In an extensive longitudinal study, Bachman (1970) and Bachman, O'Malley, and Johnson (1978) also found that self-concepts may continue to increase during late adolescence and early adulthood.

Marsh (1985a) posited that very young children are egocentric and have consistently high and less differentiated self-concepts in all areas. These self-concepts may be unrealistic and relatively independent of any external criteria. As children become older, they incorporate more external information into their self-concepts so their self-concepts become more consistent with external criteria. For most children this implies that self-concepts will decline with age in at least some areas, and that across a broad range of children, self-concepts will decline in all areas. As children incorporate more information about their actual skills and abilities, as well as feedback from others, their self-concepts will also become more differentiated as posited by the Shavelson model and as observed in responses to the SDQ-1. This proposal is consistent with the decline in preadolescent self-concepts with age, the increased differentiation of self-facets with age, and the finding that as young children become older, their self-perceptions become more highly correlated with performance, feedback, and other external criteria.
Dusek and Flaherty (1981) and Marsh, Barnes, Cairns, and Tidman (1984) used exploratory factor analyses to demonstrate that factor structures derived from self-concept responses were similar across age and sex. In the Marsh et al. (1984) study, students (N=658) were selected from grades 2 to 5. The researchers found that the effect of grade level was significant for all but the Parent Relations scale where there was no age effect at all. In general, self-concepts were consistently high across the age range considered. For Peer Relations, self-concepts decreased from grades 2 to 4 but increased in grade 5. For each of the other five SDQ-1 factors and for all three total scores, self-concepts declined moderately but consistently with increases in grade level.

Secondly, in the area of sex related studies, Dusek and Flaherty (1981) reported differences in specific self-concepts consistent with sex stereotypes. Males had a higher self-concept in masculinity, achievement, and leadership than females but lower self-concepts in congeniality and sociability. In their literature review, Meece et al. (1982) reported that sex differences in math achievement and math self-concept are not as large in the elementary years. Generally, females do as well as males on standardized tests of math achievement during elementary and junior high school (Fennema, 1974; Sherman, 1980). However, some studies indicate that by early junior and late or senior high school, females have lower levels of math achievement and self-concept. Meece et al. (1982) also indicate that by junior high school and the high school years, females have lower math self-concepts than males. Furthermore, they suggest that as as
students go through high school, math self-concept declines but that the decline starts sooner and is larger for females than for males. The authors imply that the decline in female math self-concept precedes the decline in math achievement and that the socialization processes reflected in math self-concepts are one cause of the decline in achievement.

Several Australian studies have found significant sex differences depending on age, the component of self-concept, and the self-concept instrument (Marsh & Smith, 1982). Marsh, Relich, and Smith (1983) examined sex differences on the SDQ-1 for students in grades 5 and 6. They found that females had higher self-concepts in Reading and General-School and lower self-concepts in Physical Abilities, Mathematics, and Physical Appearance despite significant higher levels of math achievement. Similarly, in a study of 559 grade 5 students, Marsh, Smith, and Barnes (1985) found that females had significantly lower self-concepts than males in Physical Abilities, Physical Appearance, and Mathematics and significantly higher self-concepts in Reading despite higher academic achievement as measured by objective test scores and teacher ratings of ability. When teacher ratings and test scores were considered separately, teachers rated females reading ability to be higher and this sex difference was larger than could be accounted for by differences in reading test scores. Being female also had a direct positive effect on math test scores (in that females scored higher), but not on teacher ratings of math ability. Similarly, being female had no direct effect on Reading self-concept but had a negative effect on Mathematics self-concept. In his dissertation, Relich (1983) also found that
sixth grade females had significantly lower Mathematics self-concepts than males, even though the females had higher levels of math achievement. In contrast, Marsh, Barnes, and Tidman (1984) found that sex differences did not vary across the age range considered in their study. Only moderate sex differences were observed for Physical Abilities (favouring males) and Reading (favouring females). The sex effects based on the normative sample (Marsh, 1985b) found the largest sex effects to be consistent with previous research (i.e., Physical Abilities for males and Reading for females). No significant sex effects were observed on Parent Relations, General-School, and Total Academic self-concepts. Small effects, in favour of males, were observed on Physical Appearance, Peer Relations, Mathematics, and Total-Self self-concepts.

Marsh, Parker, and Barnes (1985) conducted a large study of adolescent responses to the SDQ-11 in grades 7 to 12 and found similar sex differences to those observed in other SDQ research. In general, sex effects were small across all facets of self-concept and sex differences in specific facets were consistent with sex stereotypes. Marsh, Byrne, and Shavelson (1989) examined sex differences in senior school students using three different self-concept instruments and found that, on all three scales, males had consistently higher math self-concepts whereas females had significantly higher verbal self-concepts even after controlling for school grades in English and in Mathematics. Stevenson and Newman (1986) also found that females had lower math self-concepts. The researchers reported that grade 10 males had
more positive attitudes toward self in math than females, but that females had more positive attitudes about reading.

3. The Shavelson Model of Self-Concept and Academic Achievement

Research indicates that academic self-concepts are at least moderately correlated with corresponding levels of academic achievement, although the correlations almost never approach the reliabilities of the respective measures (Marsh, 1988a). However, although math and reading achievement may be significantly correlated with each other, Marsh and his colleagues suggest that the corresponding self-concepts - Academic Math and Academic Reading - are consistently uncorrelated across age and sex and across academic and nonacademic settings. This implies that academic self-concepts reflect more than simple academic achievement. In order to explain these seemingly paradoxical results, two theoretical frame of reference models - the Big Fish Little Pond Effect (BFLPE) and the Internal/External (I/E) frame of reference model were proposed (Marsh, 1984b, 1984c, 1986d, 1987; Marsh & Parker, 1984).

3.a. Big Fish Little Pond Effect (BFLPE Model)

The BFLPE occurs if equally able students have lower academic self-concepts when they compare themselves to more able students and higher academic self-concepts when they compare themselves with less able students (Marsh, 1984b, 1984c, 1987a; Marsh & Parker, 1984). The frame of reference model, designed to explain the BFLPE, hypothesizes that students compare their own
academic ability, more or less accurately perceived, with their perceptions of the academic ability of other students in their immediate reference group. Students then use this relativistic impression as one basis for forming their own academic self-concepts. The BFLPE suggests, therefore, that average-ability students will have higher academic self-concepts in low-ability schools than in high-ability schools. For example, if an average-ability student attends a high-ability school, his level of academic ability will be below the average ability of other students in that school, leading to an academic self-concept that may be below average. On the other hand, if an average-ability student attends a low-ability school, the same level of academic ability will be above the average of other students in that school and may then lead to an academic self-concept that is above average. Therefore, the academic self-concepts of these students will depend on their objective academic ability and will also vary with the type of school they attend. According to this model, academic self-concept will be positively correlated with individual achievement and variables relating to it (e.g., family SES) but negatively correlated with school-average achievement and variables related to it (e.g., school-average SES/ability).

For example, counter to popular assumption that disadvantaged children were likely to have lower self-concepts, several early studies in the United States found that students in low socioeconomic status (SES)/low-ability schools tended to have higher self-concepts than students in high SES/high-ability schools (Soares & Soares, 1969; Trowbridge, 1970, 1972). These studies were based on school-average SES rather than individual
SES. Brookover and Passalacqua (1981) also reported that, although individual academic achievement was positively correlated with individual measures of academic self-concept, school-average measures of academic achievement were negatively correlated with self-concept.

In a more recent study, Marsh and Parker (1984) sampled sixth-grade classes selected from both high and low SES/ability schools within the same city. The effects of both SES variables and student academic ability on academic self-concepts and teacher inferred academic self-concepts were examined. The direct effect of academic ability on academic self-concept was positive, but the direct effect of school-average academic ability/SES was negative. The findings suggest that being in a low-ability school may result in a higher level of academic self-concept, even though it may also result in a somewhat lower level of academic achievement.

In all three studies, the negative effect of school SES on total self-concept was statistically significant but small (r's between -.07 and -.13), whereas the negative effect of school SES on academic self-concept was much stronger when family SES and student academic ability were controlled (-.36 controlled versus -.08 uncontrolled). Furthermore, despite the fact that teacher ratings of student self-concepts were substantially correlated with student self-concepts, teachers in high-ability/SES schools judged both the academic and nonacademic self-concepts of their students to be higher (Marsh & Parker, 1984). The findings suggest that teachers and students may be using different frames of reference with which to form their respective judgements. As predicted from the frame of reference model, students appeared to
be comparing themselves with other students in their own school, whereas teachers tended to use a broader, more absolute frame of reference. Also, consistent with other SDQ-1 research, it appears that teachers less clearly differentiate between academic and nonacademic self-concepts than do their students.

The frame of reference model used to explain the BFLPE predicts that the size of the effect will vary according to the variability of school-average ability. The Marsh and Parker (1984) study selected schools that appeared to be extreme in terms of school-average ability, perhaps increasing the size of the BFLPE in their study. In contrast, Bachman and O'Malley (1986) excluded all nonwhite students and predominantly nonwhite schools in a reanalysis of their earlier Youth in Transition data (Bachman & O'Malley, 1977). This exclusion may have decreased the variability of school-average ability in their sample when compared to a reanalysis of the same Youth in Transition data by Marsh (1987a).

By ranking a group of students in terms of their academic achievement across the whole group and within their own classrooms, Rogers, Smith and Coleman (1978) found that the within-classroom rankings were more highly correlated with self-concept.

Strang, Smith and Rogers (1978) compared the effects of segregation versus mainstreaming on the self-concepts of academically disadvantaged children. The results indicated that lower self-concepts were reported for the academically disadvantaged group in the regular or mainstreamed classrooms. Schwarzer, Jerusalem, and Lange (1983) examined the self-concepts
of West German students who moved from nonselective primary schools to secondary schools that were streamed on the basis of academic achievement. Although students chosen to enter the high-ability schools had substantially higher academic self-concepts at the point of transition, academic self-concepts of both high and low ability groups did not differ by the end of the first year in the new schools. In a meta-analysis of studies on the effect of homogeneous ability grouping on self-concept, Kulik and Kulik (1982) found that high-ability students tended to have higher self-concepts in classes streamed according to similar abilities when compared to students in homogeneous or unstreamed classes (see also Kulik, 1985; Marsh, 1984b). In a study of the career decisions of college males, Davis (1966) proposed a model similar to the BFLPE to explain why the academic quality of a college had so little effect on career choice.

In the longitudinal High School and Beyond study, Marsh (1988b) examined a variety of academic outcomes (e.g., standardized examination performance, academic self-concept, selection of advanced course work, time spent on homework, quality of academic effort, school grades, and post secondary attendance) in a nationally representative sample of students. The influence of school average ability was not found to be positive for any of the 14 variables considered and the largest negative effect appeared to be on academic self-concept. Marsh concluded that the academic outcomes produced by attending high-ability schools were not even commensurate with the initial high ability levels of students who attended these schools and that no academic advantages of such schools were observed for the variables
considered. Marsh also suggested that it may be unjustified to assume that attending high-ability schools will necessarily result in any academic advantages.

Marsh (1984a) described a dynamic equilibrium model in which academic achievement, academic self-concept, and attributions for the causes of academic success and failure are interwoven in a network of reciprocal interactions, such that a change in any one area will produce changes in the others in order to reestablish an equilibrium. Thus, students moving from a low-ability school to a high-ability school might lower their academic self-concepts, improve their academic performance, change their academic attributions so as to protect their previous academic self-concepts, or use various combinations of these strategies.

3.b. **Internal/External Frame of Reference (I/E Model)**

The Internal/External (I/E) frame of reference model (Marsh, 1984, 1986d) describes the relationship between Reading and Mathematics self-concepts and between these academic self-concepts and verbal and math achievement. According to the model, students formulate their Reading and Math self-concepts in relation to both external and internal comparisons or frames of reference.

Achievement/ability measures in verbal and math areas typically correlate from .5 to .8. However, research based on responses to the three SDQ instruments by various age groups, from young children through to young adults and across the sexes, have consistently found little correlation between Reading and Math self-concepts (Marsh, Parker, & Smith, 1983; Marsh, Smith, Barnes & Butler, 1983; Marsh & Groundwater-Smith, unpublished manuscript;

Marsh (1986d) proposed a theoretical model to explain the lack of correlation between verbal and math self-concepts and this finding also led to a revision of the Shavelson model (Marsh & Shavelson, 1985; Shavelson & Marsh, 1986). In the revised model, self-concepts in particular subject areas are believed to form Academic Verbal and Academic Mathematics self-concepts.

According to the Internal/External (I/E) frame of reference model, students formulate their Reading and Math self-concepts in relation to both external and internal comparisons or frames of reference. Internal comparisons occur when students compare their own self-perceived abilities in different subjects (e.g., "I am better at math than at reading"). External comparisons operate when students compare their perceptions of their own abilities with the perceived abilities of other students within the immediate context (e.g., "I am poor at both reading and math for my class"). In other words, although a student may accurately perceive him/herself to be below average in both math and reading skills (an external comparison), he/she may be relatively better at math than at reading or other school subjects (an internal comparison). Depending upon how these two components are weighted, the student may have an average or even above-average Math self-concept despite his/her actual academic skills.

Since math and reading abilities are compared with each other, it is the difference between math and verbal skills that contributes to a higher self-concept in one area than in the
other. Marsh (1986d) suggests that the direct effect of reading achievement on Math self-concept and the direct effect of math achievement on reading self-concept may then be significantly negative. Subsequently, it is the joint operation of both processes, depending on the relative strength of each, leads to the near zero correlation between Reading and Math self-concepts that has been observed in the research with correlations of practical significant observed only for second and third grade students (Marsh 1986d).

Although the I/E model does not require a near zero correlation between Reading and Math self-concepts, it does require that the correlation be substantially less than the typically large correlation between verbal and math achievement levels. These findings (Marsh, 1986d) demonstrate a clear separation between Math and Reading self-concepts as they are much more distinct than corresponding measures of academic achievement in the same two areas. The results also demonstrate that academic self-concepts in various areas may be affected by different processes than are achievement measures.

The research reviewed (Marsh 1984, 1986d) also questions the ambiguous role and usefulness of general academic self-concept which apparently cannot adequately reflect the diversity of specific academic self-concept facets. If the role of academic self-concept is to better understand the complexity of self in an academic context, predict academic behaviours and accomplishments, provide outcome measures for academic interventions, and relate academic self-concept to other constructs, then the specific
facets of academic self-concept may be more useful than a general academic facet.

In his review, Marsh (1986d) reported that, in contrast to the self-report data, a different pattern of results was observed in respect to inferred self-concepts based upon teacher and peer responses and that there appeared to be no evidence that the internal comparison process was operating. Academic self-concepts inferred by teachers were highly correlated with objective measures but they did not appear to accurately reflect the relativistic nature of self-concepts embodied in the internal and external comparison processes used by students in forming their own self-concepts. This suggests that the external process may not operate in the same way in the formation of self-concept inferred by teachers and those based on the student's own self-reports. The findings also demonstrate that the formation of a student's self-concept may be affected by different processes than those affecting the self-concepts inferred by significant others.

The external frame of reference is similar to the process described earlier to explain the BFLPE and is supported by the BFLPE studies. It is also believed that this process is used by external observers to infer the self-concepts of others. Although the present I/E model emphasizes specific academic abilities and self-concepts, it may be likely that a similar process acts in other areas as well, such as in the formation of nonacademic self-concepts.

Support for the I/E model and the SDQ-1 research has practical implications for educators at all levels. If teachers are able to more accurately infer the academic self-concepts of
their students and better able to understand how they are formed, then their ability to provide positive reinforcement to students of all ability levels will be enhanced. Even though teachers seem to be able to infer self-concept in academic areas with at least moderate accuracy, there appears to be several biases in their inferences. It seems unjustified to assume that academically weak students will necessarily have poor academic self-concepts in all settings and in all subject areas. For example, Marsh (1988a) suggests that:

1. Students in settings where other students are also academically weak will have higher academic self-concepts than they would in settings where other students are average or above average. Previous SDQ research (Marsh, 1988a) suggests that teachers emphasize absolute measures of academic achievement in inferring academic self-concepts of their students and largely ignore the particular setting which establishes the frame of reference for the student's own development of their self-concept.

2. Inferred ratings by significant others (teachers and peers) overemphasize the external comparison of student academic skills and underemphasize differences in skills in particular academic areas. Therefore, a student who is weak in both math and verbal skills, but is stronger in one area than in the other, will tend to have much larger differences in his own self-report for Reading
3. The model predicts that nearly everyone will feel reasonably good in at least some areas.

D. SELF-CONCEPT AND TEACHER PERCEPTION

1. Theoretical Basis

Symbolic interactionists argue that self-concept emerges from a person's social interaction with others, that self-concept is based on the ways others respond to the individual, and that a person's perceptions of others' responses reflect their actual responses (Kinch, 1963). Symbolic interactionists argue that support for the theory also requires a "congruence between (a) self-perceptions and others' actual perceptions of the person and, (b) perceived other-evaluations and actual other-evaluations" (Shrauger & Schoeneman, 1979, p.552).

Research involving ratings by others may be formulated in a variety of ways. For example, external observers may be asked what they think or feel about a person. On the other hand, external observers may be asked to use their observations to infer what that person thinks about himself or herself (i.e., inferred self-concept). The second approach, which utilizes inferred self-concepts, is often used in self-concept research as self-concept is based upon self-perceptions, whether accurate or not (Wells & Marwell, 1976). The distinction between these two types of ratings, however, is not always clear in self-concept research, and perhaps not to the external observers even when researchers
ask for inferred self-concepts. In the previous SDQ research described in this chapter and in the present study, ratings by others refer to inferred self-concepts.

There is also disagreement as to the relevance of inferred self-concept ratings even among researchers who agree that ratings by others should be inferred self-concept ratings. Combs, Soper, and Courson (1963) argue that self-report measures of self-concept are affected by sources of bias and that inferred ratings by external observers provide a more objective measure of self-concept. Others (e.g., Crandall, 1973; Marsh, Smith, Barnes & Butler, 1983; Shavelson et al., 1976) argue for the theoretical separation of self-concept based on a person's own self-report and inferred self-concepts based on the reports of others. Crandall (1973) suggests that ratings of others may be useful to validate or even to supplement self-report measures. Marsh argues that ratings by others are phenomenologically distinct from self-reports of self-concept and that the two will agree only if the external observer knows the subject well, observes a wide range of behaviors, has viewed a range of different subjects, and makes judgements of the same specific characteristics as the subject.

According to the Shavelson model (1976), self-concept is influenced by the evaluations of significant others but is conceived of as a different construct from self-concept inferred by external observers. Although there may be self-other agreement for very specific self-concepts, particularly near the base of the hierarchy, the "correspondence between observer and the self decreases as one moves up the self-concept hierarchy" (p. 412).
Shrauger and Schoeneman (1979), based on an extensive review designed to test implications of Shavelson's (1976) theory, concluded that there is little consistent relationship between self-ratings and the ratings by others. Shrauger and Schoeneman (1979) reviewed studies that correlated self-reports with judgements by others. However, the content of the self-reports in their review was quite varied, no attempt was made to determine if some external observers (e.g., teachers, parents, peers) provided more accurate assessments than others, and the distinctiveness of different components of self-concept was not considered when multiple characteristics were judged. Also, no distinction was made between studies that asked external observers to record their own perceptions and those in which observers made inferred self-concept ratings.

2. Self-Other Agreement in SDQ Research

A series of multitrait-multimethod studies by Marsh, Parker, and Smith (1983) and Marsh, Smith, and Barnes (1983, 1984) demonstrated significant agreement between multiple self-concepts and inferred ratings by elementary school teachers and the students' peers. The average of the 56 convergent validities representing self-other agreement in the above-mentioned studies using the SDQ-1 was .30 across all scales excluding the General-Self scale. Correlations in these studies were highest for academic self-concepts and Physical Abilities and lowest for Parent Relations and Physical Appearance. The results appear to support the convergent validity of the SDQ-1. Student-teacher agreement tended to be highest in the academic areas, where
teachers may most easily make relevant observations, and lowest on Parent Relations, the area least observable for teachers.

Self-other agreement differed markedly only in two areas: Parent Relations and Physical Appearance (Marsh, 1988a). The relative lack of agreement on Parent Relations was expected since this is the area in which teachers and peers are least likely to have an adequate basis for accurately inferring self-concepts. Lack of agreement on Physical Appearance was more surprising. Marsh and his colleagues (1988a) suggest that, perhaps, the standards used by teachers as a basis for this inference are different from those used by students. However, the studies note that even student-peer agreement on this factor was among lowest of any of the scales, suggesting that students may be using idiosyncratic standards in forming their own Physical Appearance self-concepts and that these standards may not generalize even to those that they use in making ratings about one of their classmates. Soares and Soares (1977, 1982) also demonstrated significant self-other agreement using multitrait-multimethod analysis while providing evidence for the distinctiveness of the different facets of self-concept.

In another multitrait-multimethod study (Marsh, Barnes & Hocevar, 1985; Marsh & O'Neill, 1984), university students responded to the SDQ-111. In addition to the self-ratings provided by the students, the person who knew each student best provided inferred self-concepts by also completing the SDQ-111 as if he or she were the student. Over half of the students chose their parents as the person who knew him or her best. Separate factor analyses of both self-ratings and responses by significant others
identified the 13 dimensions of self-concept which the SDQ-111 is
designed to measure. For each set of responses, internal
consistencies of all scales were high, whereas any correlations
among factors were close to zero. Self-other agreement was quite
high (mean r=.58) demonstrating that significant others are able
to accurately infer the multidimensional self-concepts of someone
whom they know well and supporting the validity of interpretations
based on responses to the SDQ-111 for older students.

In contrast to the results of self-other agreement studies
based on either teachers or peers reports, significant others in
the SDQ-111 study were predominantly parents who accurately
inferred self-concepts in academic and nonacademic areas.
Agreement on the Parent Relations scale was particularly strong
(r=.76) and agreement on Physical Appearance was substantial
(r=.50) but still below average for all traits (r=.58). The
researchers suggest that it is possible that respondents in the
university study were using internal standards that were more
similar to those used by significant others. According to Marsh
(1988a), possible explanations for such strong self-other
agreements in the SDQ-111 study include the following:

1. Subjects were older and therefore knew themselves better
   or based their self-responses on more objective and
   observable criteria.

2. Both subjects and significant others responded to the
   same well-developed instrument.
3. Self-other agreement was for specific characteristics rather than for broad, ambiguous characteristics or an overall self-concept.

4. The significant others knew the subjects better and in a wider range of contexts than the observers in most research.

Only two of the SDQ-1 studies by Marsh, Smith, and Barnes (1984) included the General-Self scale. Self-other agreement on this scale was the lowest of all the scales for self-concepts inferred by peers and among the lowest for self-concepts inferred by teachers. Marsh et al. (1984) imply that this finding may be consistent with the Shavelson's suggestion that self-other agreement will be smallest for facets near the apex of the hierarchy where self-concept is less clearly tied to observable behavior. Also consistent with this suggestion is that self-other agreement was somewhat poorer for the General-School scale (mean of eight studies r=.333) than for the remaining Math and Verbal academic scales (mean r=.37, respectively). The results of the SDQ-111 multitrait-multimethod study (Marsh et al., 1985) further support these findings as the lowest self-other agreement was also for the General-Self and General-Academic scales.

According to Wells and Marwell (1976), interpreting self-other agreement in terms of theory and previous research is difficult because of the various types of inferred ratings used in different studies. The above-mentioned studies (Marsh et al., 1984, 1985; Marsh & O'Neill, 1984) appear consistent with the Shavelson model, especially the prediction that self-other
agreement would be weaker for self-concepts close to the apex of the hierarchy. The significant others in these studies were asked to respond as if they actually were the subject which appears to be the appropriate question to ask in order to determine the ability of significant others to infer self-concepts and follows from the definition of self-concept as a person's self-perceptions.

E. SELF-CONCEPT AND ACADEMIC ACHIEVEMENT

Wylie (1979) noted that "many persons, especially educators, have unhesitatingly assumed that achievement and/or ability measures will be strongly related to self-conceptions of achievement and ability and to overall self-regard" (p. 355). According to the Shavelson model (Shavelson et al., 1976; Marsh and Shavelson, 1985) and the SDQ-1 (Marsh, 1988a) upon which it is based, self-concept is a multifaceted and hierarchically ordered construct. Therefore, the model predicts that academic achievement will be more positively correlated with academic self-concept than with nonacademic self-concept or overall self-concept, and that verbal and math achievement indicators will be more highly correlated with academic self-concepts in matching content areas than with other facets of self-concept.

1. Self-Concept and Reading and Mathematics

Hansford and Hattie (1982), in the most extensive meta-analysis of the achievement/self-concept relationship, found that measures of ability correlated about .2 with measures of general
self-concept but about .4 with measures of academic self-concept. Similarly, Shavelson, and Bolus (1982) found that grades in English, math and science were more highly correlated with matching areas of self-concept than with general self-concept. Bachman (1970) reported that IQ correlated .46 with academic self-concept and .14 with general self-concept. Byrne (1984), in her review of studies relating self-concept to academic achievement, found that nearly all studies report self-concept to be positively correlated with academic self-concept and that many studies found achievement to be more strongly correlated with academic self-concept than with general self-concept. These findings appear to support interpretations based on SDQ and indicate the need to distinguish among academic, nonacademic and general self-concepts.

SDQ research has emphasized the distinctiveness of self-concept, particularly in verbal and math content areas, and it has examined extensively the relationships among reading/verbal achievement and Reading and Math self-concepts. A variety of studies examined the relationship between SDQ responses and academic achievement (Marsh, Parker & Smith, 1983; Marsh, Smith Barnes & Butler, 1983; Marsh, Smith Barnes & Butler, 1983; Marsh, Relich & Smith, 1983; Marsh, Smith & Barnes, 1984; Marsh & Richards, 1986; Marsh & Gouvernet, in press). Academic achievement in these studies included both objective tests and teacher ratings of achievement, including verbal, math, and general academic achievement indicators. Overall, correlations between the SDQ scales and the academic achievement indicators in these 11 research samples supported a dramatic distinction between academic and nonacademic facets of self-concept and they
demonstrated the clear separation of Math and Reading self-concepts.

Marsh, Relich, and Smith (1983), for example, demonstrated that math achievement was substantially correlated with Math self-concept ($r = .55$), less correlated with self-concept in other academic areas (Reading $r = .21$; General-School, $r = .43$), and nearly uncorrelated with self-concept in nonacademic areas. A similar pattern of correlations was observed for the other studies (Marsh, 1988a).

Tests of verbal achievement and teacher ratings of reading achievement were the most frequently used achievement indicators in SDQ research (e.g., Marsh, 1988a; Marsh, Parker & Smith, 1983; Marsh, Smith, Barnes & Butler, 1983). Of the 17 correlations between Reading self-concept and verbal achievement indicators reported across the studies, all 17 were statistically significant, ranging from .18 to .57 (median $r = .40$). However, the median correlation between these same verbal achievement measures and Math self-concept was .04 and only four of 17 correlations were significant. The 17 correlations between reading achievement indicators and General-School self-concept varied from .4 to .52 (median $r = .21$) and 12 were statistically significant. In summary, these results indicate that reading achievement indicators are most highly correlated with Reading self-concept, less correlated with the General-School scale and with Math self-concept, and uncorrelated or negatively correlated with self-concepts in nonacademic areas.

Math achievement indicators have been collected in fewer studies (Marsh, 1988a). Nevertheless, the 13 correlations between
math achievement and Math self-concept varied from .17 to .66 (median r=.32) and all were statistically significant. However, the 13 correlations between math achievement and Reading self-concept varied from -.01 to .36 (median r=.12) and only six were statistically significant. The 13 correlations between math achievement and General-School self-concept varied between -.02 and .59 (median r=.26) and 11 were significant. In summary, math achievement indicators were most highly correlated with Math self-concepts, less correlated with Reading self-concept, and uncorrelated or negatively correlated with self-concepts in nonacademic areas.

Marsh (1986d) reanalyzed the data on Verbal and Math self-concept of previous studies and their relationship using the SDQ-1, 11, and 111. The studies employed different reading and mathematics measures, including objective test scores, teacher ratings, and school performance. Results of the 13 re-analyses indicated that correlations between indicators of verbal and math achievement were substantial and ranged from .42 to .94. Correlations between measures of Reading/Verbal and Math self-concepts, on the other hand, were smaller and ranged from -.10 to .19. Also, three of the 13 correlation estimates, based on unweighted scores, were positive and ranged from .10 to .19 whereas none of the other estimates, based on factor scores, reached statistical significance and ranged from -.10 to .20. Marsh (1988a) suggests that, perhaps, the different areas of self-concept may be more clearly differentiated by factor analytically derived scores than by unweighted scores.
The relationships between Reading/Verbal self-concept and verbal achievement and between Math self-concept and math achievement were positive and statistically significant in all 13 analyses (Marsh, 1986d). In contrast, the relationship between math achievement and reading/verbal self-concept and between verbal achievement and math self-concept were all negative and statistically significant except for one study (Marsh, Parker & Barnes, 1985) in which grade 11 and 12 students' achievement was based on self-assigned ability groupings reflecting student interest and future educational plans.

Marsh, Bryne, and Shavelson (in press) tested the I/E model with grade 11 and 12 Canadian students (n=991) to three different academic self-concept instruments including the SDQ-111. Despite substantial correlations between school performance measures in math and English \( (r=.51) \), correlations between Math and Verbal self-concepts from the various instruments varied from -.05 to .08 and the correlation between total scores across the three instruments was zero.

2. **Self-Concept and Grades**

Chapman, Cullen, Boersma, and Maguire (1981) investigated the interrelationships between general and academic self-concept, academic locus of control, and self-perceptions of future academic performance in a sample of 376 elementary school children in grades 3 to 6. The results showed that academic self-concept and expectations of future performance correlated with report card grades. Similarly, Shavelson and Bolus (1982) found that grades in English, mathematics, and science were more highly correlated
with matching areas of self-concept than with general self-concept. In his reanalysis of the Bachman and O'Malley (1986) findings, Marsh (1987a) provided further insight into the distinction between academic ability and grade point average (GPA). As the schools in the study tended to grade on a curve, the distribution of grades was similar even when the students' actual abilities were not. Thus, equally able students tended to have lower GPA's in high ability schools than in low ability schools. Marsh found that ability test scores contributed strongly to academic self-concept in addition to their indirect effect through GPA. Marsh also explained that this frame of reference effect contributed to the BFLPE on academic self-concept such that school-average ability negatively affected academic self-concept.

The SDQ research has emphasized the distinctiveness of self-concepts in verbal and mathematical content areas, as well as the distinction between academic and nonacademic facets of self-concept. Most of the studies have included both objective tests and teacher ratings of student ability or achievement (Marsh, Parker, & Smith, 1983; Marsh, Smith, Barnes, & Butler, 1983; Marsh, Relich, & Smith, 1983; Marsh Smith, & Barnes, 1984; Marsh & Richards, 1986; Marsh & Gouvernet, 1987). The present study examines the relationship between (1) the ESL student's self-concept and academic achievement and (2) teacher perceptions of ESL student's self-concept and academic achievement. In the present study, academic achievement is measured in terms of school performance or grades in English and Math, based on the assumption that a student's marks or grades may best reflect a student's
academic achievement in school-related areas on a daily and continuing basis. Also, grades are the most frequent criteria used by teachers to evaluate a student and to reflect daily progress and, therefore, may have the greatest impact in both the student's and teacher's formation of student's academic self-concept. Furthermore, teacher ratings of student achievement, although not formally assigned, most closely resemble grades. In addition, they have been the most frequently used achievement indicators in SDQ research.
F. ENGLISH AS A SECOND LANGUAGE STUDENTS AND ASSESSMENT

This section reviews the literature as it pertains to second language learners in regard to theory and research in the following areas: the development of language proficiency, second language teaching and academic achievement, psychoeducational assessment, bilingualism, and cultural identity. In addition, these areas will be discussed as they relate to the controversy surrounding the testing and placement of ESL students. Although this section is devoted to recent issues relating to ESL students and assessment, the degree to which these factors influence second language learners is beyond the scope of the present study until the primary questions regarding ESL student self-concept are first explored.

"Of the various procedures that school children undergo, perhaps the most critical in terms of their future are assessment and placement...placement decisions are made on the basis of judgements about a student's level of achievement and projections of future performance...Assessment and placement are themselves processes of socialization because they are based upon culturally determined perceptions, beliefs and values".

The most important roles that a school undertakes - those of dispenser of knowledge and skills, developer of human resources and certifier of academic and technical competence - require it to make complex decisions about who gets what and who goes where. These functions, in turn, serve to highlight the initial importance of how a school that serves different ethnocultural groups approaches assessment and placement" (Samuda et al., 1989, p. 112-113).

Furthermore, as Cummins (1984) suggests,

"There has long been an unacknowledged relationship between bilingualism and special education as evidenced by the disproportionate numbers of immigrant and minority language children "deported" into special education classes and vocational streams in many countries" (p. 1).
The overrepresentation of ethnic minority students in special education has led researchers to investigate the issues, assumptions, and policies underlying ESL assessment, placement, and counselling. In so doing, research findings over the last 20 years have begun to shed light on the relationships between second language acquisition, teacher perceptions, and academic achievement.

Unlike studies in the United States, little research in the past has been conducted in Canada in regard to the disproportionate numbers of minorities failing academically. Cummins (1984) indicates that surveys of the late 1960's and early 1970's suggested that minority students, in Canada, out-performed their native English speaking counterparts. Recently, however, increased referrals for psychological and educational assessments have led to the reexamination of the theoretical assumptions underlying psychological assessment services for ESL students. For example, according to Cummins (1984), currently much of assessment and pedagogy in bilingual special education "depends on implicit theoretical assumptions that are logically inconsistent and contradicted by a considerable amount of research evidence" (p. 2). This has led to recent questions regarding the development of language proficiency, especially for second language learners.

1. **Language Proficiency**

According to Samuda and Crawford's (1970) survey of 34 school boards in Ontario, guidelines for the assessment of ESL students are often vague and perceived of as the most difficult part of the
school's identification and placement process. Cummins' (1980, 1984) analyses of 428 teachers referral forms and psychologists' interpretations of assessment data in Western Canada reflect the implicit assumptions about what constitutes language proficiency and expose a variety of problems associated with the assessment of ESL students, particularly in reference to standardized tests. For example, educators have often focused on the acquisition of English as the primary goal of special programs for limited English proficient (LEP) students, assuming that the development of English proficiency would result in the student's eventual attainment of the academic skills needed to succeed in school in a second language and at levels comparable to native English speakers. Recently, research (e.g., Cummins 1979, 1981, 1984; Collier 1987, 1989) has begun to address the variables that might influence this process, such as the length of time and the level of second language (L2) proficiency required to achieve academic success in a second language. Increasingly this research evidence indicates that the optimal age question cannot be separated from another key variable in second language acquisition, cognitive development and proficiency in the first language (Cummins, 1981; Collier, 1989).

According to McLaughlin (1984) and de Villiers and de Villiers (1978), first language (L1) acquisition may take a minimum of 12 years. From birth through age five, children acquire enormous amounts of L1 phonology, vocabulary, grammar, semantics, and pragmatics, but the process is not complete by the time children reach school age. From ages six to 12 years, children still have to develop in the first language the complex
skills of reading and writing, in addition to the continuing acquisition of more complex rules of morphology and syntax, elaboration of speech acts, expansion of vocabulary, semantic development, and even some aspects of phonological development (McLaughlin, 1984; de Villiers & de Villiers, 1978). For school purposes, language acquisition also must include the vocabulary and special uses of language for each subject area, such as the metalinguistic analysis of language in language arts classes and many other learning strategies associated with the use of language in each content area (Chamot & O'Malley, 1987; Heath, 1986).

Second language acquisition research (Cummins, 1984; Collier, 1989) has found that the process of L1 development has a significant influence on the development of L2 proficiency. One important finding is that the lack of continuing L1 cognitive development during second language acquisition may lead to lowered proficiency levels in the second language and in cognitive academic growth. Lambert (1975, 1981, 1984) refers to this as 'subtractive bilingualism', often developed by minority students who tend to experience academic difficulties. Cummins (1981b) describes this in terms of a lower threshold level in the first language, or 'limited bilingualism', with which negative cognitive effects may be associated. Furthermore, both Lambert and Cummins suggest that special education programs may contribute to subtractive or limited bilingualism and lower a student's academic self-concept by communicating that the minority student be educated through his or her weaker L2.

Several research reviews have identified groups of students experiencing some negative cognitive effects of subtractive or
limited bilingualism (e.g., Cummins, 1981b, 1984; Dulay & Burt, 1980; Duncan & De Avila, 1979; Skutnabb-Kangas, 1981). Before puberty, it appears that it does not matter when one begins exposure to, or instruction in, a second language as long as cognitive development in the first language continues up through age 12, the age by which first language acquisition is largely completed.

Cummins (1980, 1981b) refers to a 'common underlying proficiency', or interdependence, existing between a bilingual child's two languages, even given widely varying surface features, with development of one language strongly aiding the development of the second one. That is to say, that although the surface language structures may be separate in either language, they seem to be interdependent and transferable from one language to another. Therefore, experience in either language may promote the developmental proficiency underlying both. The research findings involving studies of bilingual education programs and French Immersion, age on arrival studies, L1 literacy development programs, and bilingual language use in the home appear to lend support for Cummin's theory of a common underlying proficiency between first language (L1) and second language (L2) skills (Collier, 1985, 1989; Cummins, 1980, 1981b; Cummins & Swain, 1986; Wells, 1981).

Also, in terms of L2 acquisition, Cummins (1980, 1981a, 1984) distinguishes between the acquisition of basic interpersonal communicative skills or face-to-face language skills and cognitive/academic language proficiency. While basic interpersonal communication skills reflects the surface structures
in English, is less cognitively demanding, and may be acquired between two to three years of exposure to the new culture, cognitive/academic language proficiency is more linguistically and semantically complex, reflecting the deeper structures of language and usually taking five to seven years for language-minority students to master in a second language.

Language in school becomes increasingly complex and less connected to contextual cues as students move from one grade level to the next. Cummins and Swain (1986) describe context-reduced, cognitively demanding school language as especially difficult to master. However, by the fourth grade, most school-related language falls into this category. Nevertheless, failure by teachers and psychologists to take into account the developmental relationship between cognitive development, language proficiency and academic achievement may result in incorrect interpretations of ESL students academic difficulties and subsequent inappropriate academic placements, especially when these students appear to have little difficulty understanding and communicating with teachers and peers in English.

Collier (1989) cites a number of researchers who compared the performance of subjects of different ages on language tasks associated with school skills. When examining the optimum age for beginning second language acquisition, most studies of both short-term and long-term gains found that students initiating second language acquisition between the ages of eight and twelve years were faster in the early acquisition of L2 skills. In addition, over several years' time, due to their cognitive maturity, they maintained a greater cognitive advantage over younger children.
initiating second language acquisition at four to seven years of age.

In order to address the optimal age question in regard to second language learners, Cummins (1981a) reexamined data from the Ramsey and Wright (1974) study. Cummins (1981a) examined the length of time needed for immigrants to acquire school language when schooled exclusively in the second language after arrival. His study examined the achievement of 1,200 Canadian immigrants in grades five, seven and nine. Cummins found that it took limited English proficient students five to seven years to reach native-speaker norms at the 50th percentile or 50th normal curve equivalent (NCE). Number of years of L1 schooling was not included as a variable. Cummins (1981a) found that length of residence was a significant variable on all tests of oral and written skills. Students being schooled only in the second language who were tested in the fifth, seventh and ninth grades were found to require a length of residence of five to seven years to reach the mean grade norms for native speakers in language skills needed for school. Cummins found that older students performed better than younger learners because they were more cognitively mature. This difference was lessened, however, when younger and older students were compared using norms appropriate to their age and grade. In addition, Cummins found that the effect of length of residence and age on arrival variables seemed to diminish with time, especially after a length of residence of five years.

In this same study, Cummins (1981a) found that immigrants took approximately two to three years to reach proficiency in
basic communicative skills in English or the context-embedded, cognitively undemanding aspects of language. Yet, proficiency in basic L2 skills did not correlate highly with the type of language needed for context-reduced, cognitively demanding language tasks, as measured on standardized tests. Nor did proficiency in basic skills correlate highly with informal measures designed to test the thinking skills and more abstract thought required in the upper elementary grades and secondary school (Collier, 1987; Collier & Thomas, 1988; Gottlieb, 1985; Saville-Troike, 1984). Cummins (1981a) found that a period of five to seven years of study in the second language is required to reach native speaker levels in school-related language.

In another study, Cummins, Swain, Nakajima, Handscombe, Green, and Tran (1984) examined age differences and the influence of L1 development on L2 school language development. On measures of L2 school skills, older students performed significantly better, whereas younger students outperformed older students in context-embedded measures, or basic skills in English.

Collier (1987; Collier & Thomas, 1988) conducted two studies analyzing the length of time required for 2,014 immigrants, whose schooling was exclusively in English after arrival in the United States, to reach native-speaker norms on standardized achievement test in reading, language arts, mathematics, science and social studies. Age of arrival ranged from four to 16 years and length of residence from two to six years. Over 75 different languages were represented in the sample, which included 65% Asians and 20% Hispanics. The results of the studies showed that those students below age 12 years, who had had at least two years of formal
schooling in their first language before arriving in the United States, reached the 50th percentile or 50th normal curve equivalent on reading, language arts, science, and social studies tests in five to seven years. Evidence of transfer of content knowledge in mathematics from first to second language was demonstrated by the students' high achievement on math scores after only two years of study in English. In contrast, young students who had arrived between the ages of four and six years and who had received little or no schooling in their first language had not reached the 50th percentile or 50th normal curve equivalent within the first six years of length of residence and were projected to reach it in seven to 10 years. Those students who arrived at ages 12 to 16 years also scored dramatically lower than students with an age of arrival (AOA) of eight to 11 years. After six years of schooling, all in the second language, they had reached the 50th percentile or 50th normal curve equivalent only on standardized tests in mathematics.

The studies appear to provide evidence that L2 proficiency and academic achievement may not occur quickly and that they involve a developmental process that takes a much longer time than school personnel have previously assumed. All three studies found that when schooled exclusively in the second language, students require a minimum of five years to reach the 50th normal curve equivalent on standardized tests. This appeared to be true even for the most advantaged students, that is, those who have a strong educational background and who come from a middle or upper middle-class background. Adolescents with good cognitive development in the first language, such as the adolescents in these studies,
reached high levels of proficiency in basic L2 skills in two to three years with the possible exception of native-like pronunciation. As a result, their academic achievement lagged behind that of native English-speaking peers. It appears that an important key to successful second language acquisition and academic achievement by adolescents may be uninterrupted academic instruction during the acquisition of basic L2 skills.

In summary, the research reviewed on language proficiency for second language learners highlights the critical interplay of age on arrival, length of residence, and underlying developmental proficiency in at least one language as key variables for the successful acquisition of a second language. Overall, the research suggests that, depending on a child's age on arrival and length of residence in the host country, along with previous first language development, it may take a minimum of two years to acquire basic communicative skills and up to seven or more years to reach the grade norms of native speakers in most subject areas, particularly if first language skills and concepts are not well developed prior to introduction of the second language.

2. Second Language Teaching and Academic Achievement
2.a. Bilingual Programs

In her review of the research regarding language proficiency, second language programs, and academic achievement for language-minority students, Collier (1989) suggests that L1 instruction throughout the elementary school years, coupled with gradual introduction of the second language, seems to produce a consistent pattern of greater academic achievement in the second language at
the end of four to seven years of schooling, even though the total number of hours of instruction in the second language may be dramatically smaller when compared with schooling in the second language only. Also, the research findings support the view that it takes four to seven years of dual language cognitive academic development for academic gains to be clearly seen, but that once those gains are achieved, students being schooled in both languages are much more academically successful than their peers being schooled only in the second language.

A number of cross-national and cross-cultural studies were cited by Collier (1989) in support of schooling in two languages for language minority students. A few examples will be briefly mentioned as they relate only broadly to the present discussion.

Gale, McClay, Christie, and Harris (1981) reported that the results of a longitudinal evaluation of an Australian bilingual program found that these students performed better on English language measures after seven years of schooling than did their counterparts schooled only in English. Malherbe (1978) found that, although students in South Africa experienced an initial lag when English was introduced, they reached grade-level norms on all tests of English by grade six. Skutnabb-Kangas (1979) found that Finish nine to 11 year-old arrivals to Sweden, with several years of L1 schooling, achieved significantly higher than Finnish students who had little or no L1 schooling. In another study reported by Skutnabb-Kangas, Finnish children who were schooled in a bilingual program in Sweden that permitted L1 cognitive academic development were also able to achieve at grade level by grade six.
In the United States, McConnell and Kendall (1987) found that by grade five, bilingual-schooled immigrants to Washington state were scoring at or above the 50th NCE in math, vocabulary, and English reading. Similarly, Plante (1977) reported that Hispanic students from low-income families who participated in a Connecticut bilingual program were at or above national norms in English and mathematics by the end of grade three, whereas students schooled only in English performed significantly less well. Tempes, Burnham, Pina, Campos, Matthews, Lear, and Herbert (1984) reported that Hispanic students in several bilingual programs in California, where second language instruction was introduced in grade 3 while content area instruction continued throughout the elementary school years, reached national norms in English reading by grades five or six, and in mathematics by grade three or four. Krashen and Biber (1988) reported similar findings from other California bilingual school studies in which Hispanic students from low-income families were able to reach the 50th NCE on English standardized tests of reading by grade six and in mathematics by grade three when L1 cognitive academic development materials were added to the curriculum. Troike (1978) reported that students in a French-English bilingual program in Minnesota were at or above national norms in all content areas by the end of five years of schooling in both languages and that Hispanic students in a bilingual program in New Mexico reached national norms in mathematics by the end of grade four and in English reading by the end of grade five. Medina and Valensuela de la Garza (1987) reported that Mexican American students in four bilingual elementary schools in Arizona were scoring above
national norms on the California Achievement Test at the end of third grade on all subject area tests. Vorih and Rosier (1978), in an study of Navajo students, found that those in a bilingual program reached national norms by grade six, whereas students schooled only in English (L2) performed substantially lower. In a longitudinal study, Medina, Saldate, and Mishra (1985) reported that Hispanic students in Arizona who had attended a bilingual program at elementary school were still achieving at or above national norms in mathematics and in English reading by grade 12.

In summary, according to Collier's (1989) review, students who are schooled in two languages, regardless of social class, generally appear to take from four to seven years to reach national norms on standardized tests in reading, socials, and science, whereas their performance may reach national norms in as little as two years in tests in mathematics and language arts.

2.b. ESL Programs Evaluations

Very few ESL program evaluations have been reported. A few studies of short-term gains have been summarized by Long (1983) who found that special L2 instruction does improve, to some degree, students' performance on L2 tests, compared with that of students who have 'natural' exposure to the language without special L2 instruction. However, there is a strong need for further research in this area.

Collier (1987; Collier & Thomas, 1988) reported on the L2 academic achievement of ESL students over a six-year period but they did not evaluate the ESL program. There were no comparison groups receiving only natural L2 exposure or bilingual instruction
and data was not available on the exact length of time that each student remained in ESL classes. However, most students received one to two hours of ESL instruction daily for one to two years and were immersed in the mainstream for the rest of their classes. In this situation, it took the eight to 11 year-old arrivals five to seven years to reach the 50th normal curve equivalent (NCE) on all the standardized tests combined, and it was projected that the four to seven year-old and adolescent arrivals would take seven to 10 years to reach the 50th NCE.

Saville-Troike (1984) followed 19 children, ages seven to 12 years, through their first year of English (L2) acquisition, examining their achievement on many measures of oral and written English and academic performance in all subject areas. She found that the two major factors that correlated significantly with their L2 academic achievement were development of English vocabulary and opportunity for continuing cognitive development in the native language with peers and adults. The findings again appear to provide evidence for bilingual schooling.

Gersten and Woodward (1985) summarized two evaluations of structured ESL immersion programs which provided instruction only in English through a sequential, step-by-step process. In one program, Hispanic students scored slightly above national norms on language arts, at the 47th NCE on mathematics, and at the 39th NCE on reading after four years of using highly structured DISTAR materials. In the second structured immersion program, 16 Asian students placed in a special class reached the 58th NCE in reading and mathematics after five years.
In summary, there appears to be a great need for more studies on the long-term achievement of students being schooled entirely in the second language. It may take as long as seven to 10 years for nonnative speakers to reach the average level of performance by native speakers on standardized tests, as found in the Collier (1987; Collier & Thomas, 1988) studies. In the bilingual program evaluations, comparison groups of students being schooled exclusively in the second language typically never reach the 50th NCE.

In the lower mainland school districts of British Columbia, particularly where the ESL population is significantly large, either segregated and/or a combination of part-time pull-out ESL programs have been instituted over the last decade. However, whether immersion or partial, all of these programs have encouraged academic development in English only.

2.c. Schooling in Two Languages for Language Majority Students

Other studies that are thought to provide additional insight into the question of how long it takes to master a second language are evaluations of the Canadian immersion programs. Reviews of this research can be found in Cummins and Swain (1986), Genesee (1987), Larter and Cheng (1984), and Swain and Lapkin (1981).

Early total immersion is the most widely implemented model which typically provides all instruction in the second language (the minority language) for the first two years of schooling with gradual introduction of L1 by second or third grade. Typically, students reach national norms in tests in both languages and in
all subject areas by grade five and they continue to achieve above national norms throughout the rest of their schooling (Swain & Lapkin, 1981).

Evaluations of early partial immersion programs, which provide balanced instruction in both languages from kindergarten to Grade 12, have found that students' achievement sometimes lags behind that of the early total immersion students until grades six or seven, perhaps because literacy training simultaneously in two languages causes confusion for students and it takes them longer to sort out the two language systems (Cummins & Swain, 1986).

Late immersion students, who begin their immersion experience in grades seven or eight and who have had sufficient L2 preparation prior to the immersion experience, perform as well as early total immersion students in measures of L2 proficiency, even though they have had approximately one fourth the number of hours of L2 instruction. Overall, however, early total immersion students generally outperform students in all other types of immersion programs on attitudinal measures and on measures of academic achievement throughout their schooling (Genesee, 1987).

2.d. Generalizations on Academic Achievement in a Second Language

The research reviewed on the length of time that it takes to become proficient in a second language for schooling purposes and to reach native-speaker norms in academic achievement has led Collier (1989) to generalize about the relationships among the following variables: first language acquisition, second language acquisition, student age at the time of exposure to a second
language, academic achievement (as measured by standardized tests in all subject areas), membership in a language majority or language minority community, and languages of instruction in school. The pattern of generalizations may be summarized as follows:

1. Students schooled in two languages, regardless of social class background, generally take from four to seven years to reach national norms on standardized tests in reading, social studies, and science, and as little as two years in mathematics and language arts.

2. Immigrants arriving at ages eight to 12, with at least two years of L1 schooling in their home country, take five to seven years to reach the level of average performance by native speakers on L2 standardized tests in reading, social studies, and science and as little as two years in mathematics and language arts when they are schooled in second language only programs after arrival in the host country.

3. Young arrivals, with no schooling in their first language, may take as long as seven to 10 years, or longer, to reach the level of average performance by native speakers on L2 standardized tests in reading, social studies, and science.

4. Adolescent arrivals, regardless of academic background, who have not had L2 exposure and who unable to continue academic work in their first language while acquiring a second language may not have enough time left in high
school to make up the lost years of academic instruction and, without special assistance, these students may never reach the 50th NCE or may drop out before completing high school.

5. Consistent, uninterrupted cognitive academic development in all subjects throughout students' schooling appears to be more important than the number of hours of L2 instruction for successful academic achievement in a second language.

Furthermore, Collier (1989) indicates the need for further research with all ages of students acquiring a second language for schooling purposes and she suggests that, although most comparisons of student achievement in schools use the national norms of standardized tests, these tests may not be the best measures of second language proficiency for comparisons of academic achievement.

3. **ESL Students and Psychoeducational Assessment**

The problems associated with the assessment of ESL students have stimulated a number of alternative evaluation procedures. One of these procedures is the use of translated versions of tests which are normed, item- and factor-analyzed cross-culturally in order to attempt to correct the difficulties inherent in direct translations from one language to another. For example, the Wechsler Intelligence Scale for Children (WISC-R) has been adapted and standardized on various populations, including children from Hong Kong, Mexico, and Spain (Esquivel, 1985).
A number of studies have shown that Oriental populations have a different profile of performance on intelligence tests from that of Caucasians in the United States and the United Kingdom (Lynn, 1987). Lynn, Pagliari, and Chan (1988) suggest that Orientals, primarily Japanese and Hong Kong children, share a similar profile on tests of intelligence, in that they usually display higher visual-spatial scores, higher perceptual rates, and lower verbal scores when compared to Caucasians.

Recently, Tam (1990) assessed the cognitive potential of 32 Chinese immigrant students in both Cantonese (L1) and English (L2) and found that age on arrival and length of residence were significant predictive variables for the ESL student's verbal performance. Other variables such as family SES, frequency of speaking Cantonese at home, gender, and previous English study were also useful predictors of cognitive performance. Consistent with the previous studies, the results found a similar profile of high nonverbal and low verbal abilities on both the English and Hong Kong cognitive measures. These findings help to further illuminate the relationships between some of the variables associated with language proficiency and cognitive ability which, in turn, continue to surround the controversy on the testing and placement of language-minority students.

4. ESL Students and Academic Achievement

The relatively poor academic performance of many minority language students has been well documented (e.g., Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966; Collier, 1989; Cummins, 1984; Shutnabb-Kangas & Toukomma, 1976;
In the United States, studies and surveys on the academic achievement of students from various ethnic backgrounds tend to show a different pattern of achievement for students of Asian origin compared to other ethnic minority groups such as Mexican-Americans, Puerto Ricans, Portuguese, Blacks, and Native Americans (Coleman et al., 1966; Cummins, 1984; Vernon, 1982; Wong Fillmore, 1983). To summarize, Hispanic, Native American, and Black students have exhibited considerable educational disadvantages in
comparison to Anglo students, while Asian American students, on the other hand, have tended to experience less disadvantage compared to the other minority groups.

In Canada, surveys conducted in Ontario, for example, have found that minority students born in Canada tend to be overrepresented in the high academic performance category, while immigrant minority students born outside of Canada were slightly underrepresented in comparison to their native-born English-speaking counterparts. Furthermore, although socioeconomic factors appeared to significantly affect the English and French first language groups, it seemed to have little effect for the Canadian-born minority students. However, both the Canadian-born and the immigrant Chinese students demonstrated a high level of academic placement at all SES levels (Cummins, 1981a; 1984).

Differences in achievement patterns between minority students led Wong Fillmore (1983) to conduct an ethnographic study, through parental interviews and classroom observations, in order to investigate academic differences and their educational implications. The findings revealed that Mexican-American parents wanted their children to be happy and respected while Chinese parents wanted their children to be successful. Wong Fillmore observed that while the Mexican-American children tended to be very socially mature and do better in less structured situations and small groups, the Chinese children tended to orient themselves to adults and to enjoy a highly structured classroom with clearly stated teacher expectations. According to Wong Fillmore, the different peer orientation of the two groups was an important factor in accounting for the different achievement patterns. She
also relates these patterns of classroom behaviour to differences in socialization between Chinese and Mexican-American homes. Specifically, she suggests that, for Chinese students, the use of shame may be a powerful motivator in the home to promote conformity to adult expectations and school success, whereas for Mexican-American students, who may be given greater responsibility and freedom in the home, there may be less tolerance for teacher directed tasks and conformity to structure.

More recently and locally in British Columbia, the findings of a 1988 survey by the External Review Team on the Vancouver School Boards' ESL Programs (Ashworth, Cummins, & Handscombe, 1989) found that 46.9 percent of the total school population in Vancouver schools were ESL and that that number was projected to increase into the next decade. These students represented over 50 countries, primarily Hong Kong, People's Republic of China, Vietnam, India, Fiji, United States, and England. Also, about one-third of the ESL students were born outside Canada. In terms of ESL students' academic performance, the survey indicated that approximately one-half of the elementary ESL students were reported as being behind their age peers in English language facility and about one-third of the secondary ESL pupils were behind their age peers in understanding and speaking English. Approximately two-fifths of the ESL students were behind in reading ability and about one-half were behind in writing ability. Furthermore, the committee suggested the need for changing service delivery and program models in order to meet the changing needs within the schools. In summary, they proposed a more school-based, collaborative, and 'integrated setting' be adopted as soon
as possible in order to promote the development of language proficiency, formal and informal interaction with peers, and cultural and group identity.

"The ideal is a program that supports ESL students' learning for the entire day. Their instruction would take place mostly within an integrated setting and would segregate them from their English-speaking peers only for the time that is bilingual upgrading programs and programs providing group identity and support" (p.17).

In addition, the committee outlined the importance of a team approach which promoted and included parents as participant co-educators along with the school, as well as the need for teacher in-service in order to better understand and individualize instruction to meet the growing population of ESL students and their needs.

5. Bilingualism and Cultural Identity

In order to shed light on the changing cultural attitudes of the larger social environment as they relate to the development of bilingualism and cultural identity for second language learners, a brief historical summary, adapted from Cummins (1984), outlines the changing socio-political attitudes directed towards ethnic minority groups.

During the first half century, the prevailing attitude of Anglo-conformity suggested that ethnic groups should give up their own languages and cultures to assimilate into the dominant British culture. Bilingualism was regarded as a negative force in a child's development, causing confusion in a child's thinking. During this period of time, it was believed that bilingual children did poorly at school and that many experienced emotional
conflicts. Minority language children were made to feel that it was necessary to reject their home culture in order to belong to the majority culture and often these children ended up unable to identify with either cultural group (Lambert, 1975). In 1971, after the Report of the Royal Commission on Bilingualism and Biculturalism, a shift in Canadian policy occurred, whereby the Canadian government adopted a policy of 'multiculturalism within a bilingual framework' which encouraged all ethnic groups to enrich society by developing their cultures. Recognition was given to all groups contributing to Canadian identity and the benefits of linguistic diversity were encouraged. The Royal Commission of 1971 recommended that the teaching of languages other than English and French, and cultural subjects related to them, be incorporated as options in public elementary school programs wherever there was sufficient demand. However, the numbers of students receiving heritage language instruction in public elementary schools and the types of programs continue to vary widely across provinces.

Cummins (1981) and Lambert (1975, 1981, 1984) suggest that the patterns of bilingualism and cultural identity among minority children are important to the understanding of the research findings on academic achievement. Furthermore, they suggest that "the past insensitivity of educators to these identity conflicts has contributed substantially to minority students' adjustment problems and academic difficulties" (Cummins, 1981, p. 16). In the past, in Canada, there has been a strong tendency to replace L1 with L2 (English) so that literacy skills in the first language (L1) were not developed. However, cultural identity and the
patterns of bilingualism children develop may be closely tied to their attitudes towards the two languages and the two cultural groups that speak these languages. With a strong need to belong, the process of choosing identity for minority language students, may be more complicated because the cultural milieux between home and wider society may often display different values.

Lambert (1975, 1981) presents four ways children may work out possible conflicts between the language and culture of home and school. These may be summarized as follows:

1. Most commonly, minority children may reject home language and culture and identify with Canadian home and culture. While this may lead to more rapid assimilation of English skills, it may also lead to familial discord and personal development problems.

2. Minority children may reject the Canadian language and culture and identify with home language and culture. By resisting assimilation, these children may associate mainly with their own ethnic group. They may experience difficulty learning a second language and exhibit poor school performance.

3. Minority children may be unable to identify comfortably with either group. Home culture may often be discredited. They may be unable or not allowed to integrate.

4. Minority children may identify with both languages and cultures such that they retain pride in both, evaluate the strengths and weaknesses of both and choose their
own values and identity. These children may be more likely to be motivated to develop proficiency in both languages, have more potential for personal development, and contribute to Canadian society.

As mentioned in the review of the literature on the development of language proficiency, Lambert (1975, 1981, 1984) suggests that 'subtractive bilingualism' may occur when L2 replaces L1 and that it is often developed by minority students who tend to experience academic difficulties. For these students, proficiency in both languages may be less well developed than among natives in each. 'Additive bilingualism', on the other hand, may occur when L1 remains dominant and L2 is added at no cost to L1. Similarly, Cummins (1976) 'threshold hypothesis' suggests that the levels of proficiency in two languages may be an important intervening variables mediating the effects of bilingualism on cognitive and academic development. Furthermore, Cummins suggests that for the ESL student, academic self-concept may often be low and that special education may often contribute to 'subtractive bilingualism' by communicating that the minority language student be educated through his or her weaker L2.

In summary, the literature on second language learners tends to suggest that positive academic achievement and positive cultural identity may be enhanced when the patterns of bilingualism and cultural diversity are understood and when the development of language proficiency in both L1 and L2 are celebrated and encouraged by the larger social, cultural and academic environment surrounding the ESL student.
6. Testing and Placement Controversy

The effect of inappropriate labelling of assessment on teacher expectations and children's self-images for minorities, and the overinclusion of minority children in special education due to incorrect identification has been well documented (e.g., Coleman, et al., 1966; Collier, 1987, 1989; Cummins, 1984). In the past, studies carried out in the United States, Canada, and Britain have shown that teachers tend to have more negative expectations for minority students than for other groups. For example, Fram and Crawford (1972) found that kindergarten teachers viewed ESL students as less likely to demonstrate high levels of academic success and more likely to fail. In view of the fact that minority students frequently may be perceived of as 'low achievers', Fram and Crawford suggest that they may also experience less positive interactions with teachers than majority group students. Other studies have also shown that teachers tend to use positive interactions more frequently with perceived high achievers than perceived low achievers (Good & Brophy, 1971; Kerman, Kimball and Martin, 1980; McDermott, 1978; Rist, 1970).

Possible negative expectations for minority groups may be reinforced by the results of early identification measures which may not be appropriate for minority students and which may lead to teacher assumptions about students' proficiency in English and, inadvertently, affect the quality of instruction given to these students (Cummins, 1984; Keogh & Daley, 1983). In discussing similar findings from the U.S. Commission on Civil Rights 1973 report, the California State Department of Education (1982) stated that, "The perceived status of students affects the interactions
between teachers and students and among the students themselves. In turn, student outcomes are affected" (as cited in Cummins, 1984, p. 113). Furthermore, and consistent with the related literature on the different pattern of academic achievement evidenced between minority groups, Cummins (1984) notes that,

"...until recently, Asian-American students have had as low status as any other minority group but have achieved well academically. During the past decade, their status appears to have been elevated as a result of greater awareness on the part of teachers and the general public of their relatively high achievement" (p. 113).

However, despite the controversial issues surrounding the identification, testing, and placement of ESL students, and despite a growing body of research on the interplay of differential patterns of bilingualism, cognitive, and language development and their relationship to academic achievement and teacher assumptions regarding second language learners, little has been done to identify the self-concept of Canadian ethnic minorities and ESL students in particular.

G. SELF-CONCEPT AND MINORITY STUDIES

Much has been theorized about self-concept, and much of the research is conflicting, particularly when it applies to minority groups. Several early investigations have found that minority groups possess a poor self-concept on the basis of ethnic identity and socioeconomic status. Much of the research comes from the United States, where differences in Black and White subjects were, and still are, of paramount interest. Some have demonstrated a
significantly better self-concept for Blacks and other minority groups than for Whites (Goldman & Mercer, 1976; Hunt & Hardt, 1969; Phillips, 1973). Studies by Hodgkins and Stankinas (1969), Williams and Byars (1968), and Zirkel (1971) found minority and Black students to have a poor self-concept.

Wylie (1974) criticized many of these early conflicting studies because there was very little agreement as to the operational definitions of self-concept. Furthermore, most studies were carried out with instruments that had been used only once or a few times, the result being that there were as many instruments as there were studies, making generalizations across these studies virtually impossible.

Iheanacho (1988) reviewed the 'minority self-concept literature' to analyze more recent findings which suggested that minority groups, with similar background and ability levels, do have higher self-concepts than Whites. The review found that the main obstacles minority adolescents face in their development of self-concept are environmental factors, such as socioeconomic, educational, and political barriers, as well as their limited access to mainstream society caused by a lack of opportunity to penetrate the barriers of discrimination.

Wilkinson and Burke (1985) conducted a study to examine the impact of the interaction of ethnicity, socioeconomic status, and self-concept on Mexican-American children. They found that self-concept of ability had a stronger effect than ethnic identity on children's academic performance. This finding was particularly interesting given the fact that self-concept of ability appeared to be influential regardless of ethnic identity or SES. Iheanacho
(1988) notes an early study by Bayton, McAlister, and Hamer (1956) which asked subjects to select a list of 85 adjectives the subjects considered the most typical of upper class white Americans, upper class black Americans, lower class white Americans, and lower class white Americans. Certain characteristics were attributed to each class regardless of race, confirming that the low self-concept of minorities appears to be due to family values, social and economic position, and not solely due to their minority group affiliation. Iheanacho concludes that future researchers should concentrate on finding the environmental factors that impact on self-concept as opposed to the cultural factors. In terms of the interaction between race and SES, Wylie (1979) found that, "...some of the alleged influences of racial/ethnic status are parallel precisely because most minority racial/ethnic groups tend to occupy lower SES levels" (p.119).

Research regarding Asian minorities, the topic of this study, although scarce and predominantly conducted in the United States, report that the SES disparities noted with Blacks, Hispanics, and Native Americans were not as great. These adolescents, many of whom included native-born or immigrant families from China, Japan, Korea, Cambodia, Hong Kong, Vietnam, Burma, Laos, Thailand, Malaysia, and the Philippines, are seen by some (e.g., Liu & Yu, 1975) as having received better treatment and, consequently, higher income and educational levels. Liu and Yu postulate that it is unlikely that the self-concept of the 'Asian American' will be lower since environmental factors have remained in their favour.
In the Canadian context, research which specifically deals with minorities and self-concept is almost nonexistent. Akoodie (1984) suggests that research efforts with minorities have been directed to assess minority adjustment rather than self-concept because many groups are in the midst of social transition and the phenomena of acculturation/assimilation has interested researchers more.

H. SUMMARY OF CHAPTER II

Chapter II reviewed the literature relating to three bodies of knowledge: self-esteem or self-concept, ESL student assessment, and minority studies. According to the research reviewed on the Shavelson model of self-concept, as adopted in the present study, self-concept may be conceived of as multidimensional and hierarchical. Therefore, a student may have multiple self-perceptions and distinct self-concepts which are measurable and situation-specific, as well as age and sex related. The research indicates that teachers, as significant others, may often be able to adequately infer the student's self-perceptions, particularly in academic areas. However, the processes that students and teachers use to arrive at their perceptions are thought to be quite different. In addition, studies have shown that a student's self-concept in specific areas appears to correlate with his or her academic achievements in related areas, although not as strongly as external criteria might suggest.

The ESL student assessment literature suggests that, for second language learners, there appears to be a relationship
between language proficiency, second language acquisition, bilingualism, cultural identity, cognitive profile, and academic success. However, these issues, along with the controversies surrounding the testing and placement of ESL students, continue to be under debate. In addition, the literature relating to minority self-concept continues to be scarce. The studies, which were conducted primarily in the United States, tend to suggest that environmental factors may influence self-concept more than cultural differences. In contrast, other research suggests that cultural differences may greatly impact on the academic achievement of students for whom English is a second language. The interplay of the ESL student's self-concept with teacher perception and with academic achievement is the topic of this present exploratory study.
III: METHODOLOGY

The purpose of this investigation as it applies to English as a second language (ESL) students is two-fold. First, it explores the relationship between an ESL student's self-concept and teacher perception of that student's self-concept. The study examines both student and teacher responses to the same self-concept instrument, the Self-Description Questionnaire-1. Second, it examines the extent to which student self-concept and teacher perception of student self-concept relate to academic achievement in mathematics and in reading, as defined by the student's grades and/or teacher ratings of student performance.

A. RESEARCH QUESTIONS

The current study is exploratory in nature and utilizes a correlational design in order to investigate, more specifically, the following research questions:

1. What is the self-concept of the ESL student?
2. What is the teacher perception of that ESL student's self-concept?
3. What is the relationship between the ESL student's self-concept and teacher perceptions of that student's self-concept and to what extent do they agree?
4. What is the relationship between the ESL student's self-concept and the student's academic achievement in
reading and in mathematics and to what extent do they agree?

5. What is the relationship between teacher perception of the ESL student's self-concept and the student's academic achievement in reading and in mathematics and to what extent do they agree?

B. SELECTION AND DESCRIPTION OF SUBJECTS

The current study consisted of 57 fifth and sixth-grade students (28 male and 29 female) ranging in ages from 10 years 4 months to 12 years 7 months (mean age = 10.86) and 21 teachers (4 male and 17 female). The subjects were selected from two school districts both situated in the lower mainland of British Columbia. A total of 5 schools participated in the study, 2 schools from the urban school district (34 students and 5 teachers) and 3 schools from the more suburban district (32 students and 16 teachers). In the suburban district, 3 of the 16 teachers were primary respondents who collaborated with the 13 other teachers on some items; 2 of the 13 collaborating teachers taught as a team.

1. Student Selection

Originally, the request for subject participation was sent to schools within the urban area only. Criteria for student selection, at that time, was established as follows, based primarily on a review of the ESL assessment literature and the availability of grade/age norms for the Self-Description Questionnaire-1:
1. Chinese immigrants, preferably of Hong Kong origin.
2. Resident in Canada for approximately 5 years.
3. Presently in grades 5 or 6.
4. Aged 10 - 12 years; approximately 11 years old.
5. Presently mainstreamed into a regular classroom.

However, due to a general lack of volunteer participation and extensive research previously conducted within this urban school district, the criteria for student selection was modified and extended to also include voluntary participation from a nearby suburban school district. The modified criteria for student selection were established as follows:

1. Immigrants or Canadian-born ethnic minorities whose first language is other than English.
2. Resident in Canada for any number of years.
3. Presently in grades 5 or 6.
4. Aged 10 - 12 years.
5. Presently mainstreamed into a regular classroom, in an ESL setting, or receiving assistance on an ESL/ELC (English Language Centre) pull-out basis.

After receiving school district permission to conduct the present study within the selected schools, initial telephone contact was made with all school principals in order to elicit volunteer cooperation from both principals as well as teachers. Letters describing the general purpose of the study and requesting participation and administration time were sent to the school
principals and the respective teachers who agreed to participate in the study (see Appendix A). Letters to the students and their parents as well as parental/guardian consent forms, in both English and Cantonese, were also sent to the schools (see Appendix B). The consent forms were then distributed by the schools. Only students whose parents or guardians issued informed consent for their children to participate in this study were selected.

2. **Student Description**

Of the 57 students involved in the present study, 28 (49.1%) were male and 29 (50.9%) were female. Similarly, 29 (50.9%) students were enrolled in grade 5 and 28 (49.1%) in grade 6. Students ranged in ages from 10 years 4 months to 12 years 7 months (mean age = 10.86). Thirty-four (59.6%) of the students were recruited from the two urban schools and 23 students (40.4%) were recruited from the three suburban schools. The majority of students or 25 (43.9%) were recruited from one of the urban schools; 15 of these students were enrolled in the same full-time ESL classroom. Twelve students (21.1%) were enrolled in regular classes, 18 students (31.6%) were enrolled in full-time ESL classes and 27 students (47.4%) attended either ESL or ELC pull-out programs. Two of the 18 full-time ESL students were integrated into regular math programs within the school. Whereas the urban ESL students were enrolled in either regular, full-time, or pull-out programs, suburban ESL students recruited for the present study attended only ESL pull-out programs.

Forty students (70.2%) were of Hong Kong origin (including three Canadian-born who spent less than six months in Canada
before returning to Hong Kong), six (10.5%) Canadian-born Chinese, three (5.3%) from Taiwan, three (5.3%) from Vietnam, two (3.5%) from Japan, two (3.5%) from Korea, and one (1.8%) from the Philippines. Length of residence in Canada ranged from less than 6 months to 12 years with the majority of students or 33 (57.8%) having been in Canada between 7 months and 2 years. Student's age on arrival in Canada ranged from birth to 11 years with the majority of students or 30 (52.6%) having arrived in Canada between 9 years and 10 years of age.

3. Student School Background

Additional school demographic information was collected in verbal communication with each school principal during a short, 10 minute interview (see Appendix C). Background information included data on the percentage of ESL students in the school, minority group representation, the number of actual ESL students receiving service, ESL programs available in the school, school-average socioeconomic status, and school-average achievement (based on provincial government test scores). According to the principals' reports, 3 of the 5 schools consisted of over 65 percent visual minority or ethnic group representation. All of the schools, except one suburban school, reported that ethnic group representation was predominantly of Chinese origin. The two urban school principals reported that the many of the ESL students appeared to be fluent in English. One of the urban schools consisted of a large proportion of Canadian-born ESL students. Overall, a total of 10 to 25 percent of all students in the 5 schools received some sort of ESL instruction. Based on real
estate housing values and principal's report, the socioeconomic status of the 5 schools was rated as follows: Two of the suburban schools were rated as middle class and one as lower-middle to upper-middle class. One of the urban schools was rated as upper-middle class and one as a split between middle and lower class. School-average achievement was rated as average in two of the schools, as above average in two others, and as high in one school.

In general, the principals indicated a changing ethnic mix even within their own schools. Compared to the urban district, the suburban principals also reported an influx of more recent or second wave Chinese immigrants.

4. The ESL Teachers

A total of twenty-one teachers participated in this study. Five teachers (all female) were recruited from the two urban schools and 16 teachers (4 male and 12 female) were recruited from the three suburban schools. However, only three (1 male and 2 female) of the 16 suburban teachers were primary respondents as they were the teachers in charge of the ESL pull-out program and also the teachers who subsequently answered the majority of the SDQ-1 items. The remaining 13 suburban teachers, two of whom shared a class, collaborated with the three primary ESL teachers on some of the SDQ-1 items. All of the teachers who volunteered to participate in the present study were currently instructing the ESL students also recruited at this time (N=57). Overall, the eight primary teachers in the five schools were responsible for responding to an average of six (14%) SDQ-1 questionnaires each
with a minimum number of two (3.5%) and a maximum of fifteen (26.3%). A letter explaining the purpose of the investigation and requesting participation was given to each teacher, along with the aforementioned package of information sent to the principals (see Appendix A). The teachers in both school districts appeared willing and eager to respond to questions concerning their ESL students. In general, all of the teachers appeared young or approximately 25 to 35 years of age.

C. INSTRUMENTATION

1. Self-Description Questionnaire-1 (SDQ-1)

The Self-Description Questionnaire-1 (SDQ-1) is an eight scale instrument designed to measure seven aspects of the self-concepts of preadolescent children, ages 7 to 13 years, as well as their general sense of self-worth. This questionnaire was administered to all subjects, including both the ESL students and their teachers. Examples of both student and teacher questionnaires are included in Appendix D.

The SDQ was originally developed to measure self-concept in four nonacademic areas (Physical Ability, Physical Appearance, Peer Relations and Parent Relations) and three academic areas (Reading, Mathematics, and General-School which refers to all school subjects). Recently, the scale was revised to include a General-Self scale, a modification of the Rosenberg (1956, 1979) Self-Esteem Scale. The SDQ was also used to test specific hypotheses derived from Shavelson's hierarchical and multidimensional model (Shavelson & Bolus, 1982; Shavelson,
Hubner, & Stanton, 1976) and subsequently led to a revision of the model (Marsh, Byrne & Shavelson, 1988; Marsh & Shavelson, 1985; Shavelson & Marsh, 1986).

The scale consists of a total of 76 items. Each of the 8 individual SDQ-1 scales contains 8 positively-worded items. A definition of each individual scale and a list of the items comprising it, as stated in the SDQ-1 manual (Marsh, 1988), may be found in Appendix F. In completing the SDQ-1, respondents are asked to answer simple declarative statements such as, "I'm good at mathematics" or "I make friends easily". Respondents may choose from a 5-point Likert-type scale. Response options vary from Mostly False, False, Sometimes False/Sometimes True, Mostly True, True, or from 1 to 5, respectively. An additional 12 negatively-worded items, intended to disrupt positive response biases, are not included in the calculation of self-concept scores. Norms are based on the responses of 3,562 students from New South Wales, Australia in grades 2 to 6. The manual (Marsh, 1988) also provides separate norms by sex and by grade level for grades 2 to 4 and 5 to 6, respectively.

Marsh (1988) reports relatively high internal consistency reliability coefficients for the 8 individual SDQ-1 scales ranging from .80 to .92 (median = .86). Coefficient alphas, based on the total normative sample (N=3,562), are reported as follows: Physical Abilities/Sports, .83; Physical Appearance, .90; Peer Relations, .85; Parent Relations, .80; Reading, .89; Mathematics, .89; General School (All School Subjects), .86; General Self, .81 (N=729). Coefficient alphas are also reported for the 3 total
scores as follows: Total Nonacademic, .91; Total Academic, .92; Total Self, .94.

In order to measure the stability of self-concept responses over time, Marsh, Smith, Barnes, and Butler (1983) examined SDQ-1 responses based on two studies with students in grades 5 and 6 (N=528) and one study with students in grade 4 (N=148) tested 6 months apart within the same school year. Internal consistency estimates for both the individual scales (M=.87) and the total scales (M=.92) appeared high. Test-retest coefficients obtained also appeared high for both the individual scales (M=.61) and the total scales (M=.65) with the exception of the Parent Relations scale at grade 4 (r=.27). The reliabilities of difference scores, reported for both individual scales (mean coefficient alpha =.74) and the total scores (mean coefficient alpha =.87), appeared to support the conclusion that the changes in self-concept are systematic and not due to random fluctuations. Furthermore, correlations among the difference scores representing the SDQ-1 scales were smaller than their reliabilities (mean=.24) and factor analysis of the difference scores indicate that changes in self-concept appear to be multidimensional and specific to particular dimensions.

Numerous exploratory and confirmatory analyses of the SDQ data have been reported lending strong support for the construct validity based on interpretations consistent with the Shavelson, Hubner, and Stanton (1976) model of self-concept and subsequent revisions by Marsh and his colleagues (Marsh, Byrne, & Shavelson, 1988; Marsh & Shavelson, 1985; Shavelson & Marsh, 1986). In her review of analyses of data from a variety of studies using the
SDQ, Wylie (1989) reports that all items or item pairs for each of the 7 or 8 SDQ scales loaded relatively highly on a target factor and showed negligible loadings on the other 6 or 7 factors. This series of findings appears to support the intended multidimensionality of the SDQ. In addition, Wylie indicates that more recent factor analyses defined an eighth factor corresponding to the General-Self scale and that subsequent factor correlations tend to correlate with each of the 7 original factors as well as support the hierarchical model of self-concept proposed by the Shavelson model and its revisions. Further research investigating the generalizability of the factor structures across age, sex, and nationality have also been explored.

Responses to the SDQ-1, particularly in terms of the 3 academic self-concept scales (Reading, Mathematics and General-School or All School Subjects), were found to be related to the following variables: sex, age, socioeconomic status, academic achievement, teacher ratings of achievement and inferred self-concept, peer ratings of inferred self-concept, student attributions for perceived causes of academic success and failure, responses to other self-concept instruments, and experimental interventions designed to enhance self-concept. For more details, refer to the manual (Marsh, 1988a) and to a review of the SDQ instrument (Wylie, 1989). As responses to the SDQ-1 appear to be systematically related to these external criteria in ways consistent with theory, Marsh (1988a) and his colleagues argue that strong support for the construct validity of the SDQ-1 may be indicated. However, in her most recent review, Wylie (1989) cautions "that virtually all the studies relating SDQ scores to
other variables in order to test theory-based predictions involve only the three academic self-concept scales, Reading, Mathematics, and All School Subjects. Almost everything remains to be done to explore the construct validity of the other four SDQ variables by using them to test theory-based predictions." (p.73)

The Self-Description Questionnaire-1 was selected for use in the present investigation for several reasons. It is devised for use with a preadolescent age group and most of the research behind the instrument has been targeted in the 10 to 12 year age group in grades 5 and 6 (Marsh, 1988a; Wylie, 1989). The instrument is relatively new and measures the multiple dimensions of self-concept allowing for comparisons that might otherwise be obscured by a more unidimensional test (Marsh, 1988a; Wylie, 1979, 1989). It appears to have a well-developed factor structure which has been well researched. Furthermore, the SDQ-1 appears to measure dimensions, particularly academic-related ones, that are reliable, valid and based upon a strong theoretical model (Wylie, 1989). Although previous reviewers have criticized the poor quality of instruments used to measure self-concept, the development of the SDQ-1 appears as an attempt to remedy this situation (Wylie, 1989). At present, little research seems to exist with respect to Canadian ethnic minorities and self-concept. At the same time, as the mosaic of our Canadian culture continues to change with increasing immigration from other countries, information about students for whom English is a second language becomes more critical in order to understand their needs and how to program appropriately to meet them. This instrument provides information on several aspects of self-concept which might help educators
begin to check possible assumptions they may have in regard to their ESL students. Also, it is frequently assumed that teachers understand and are able to adequately assess their students self-concepts. The SDQ-1 may help to provide more objective information in terms of particular areas of ESL student self-concept and its relation to teacher perception and academic achievement.

2. Scoring

Responses to the SDQ-1 may be scored using the SDQ-1 Scoring and Profile Booklet (see Appendix G). The booklet provides for the calculation of individual scale raw scores, total scale raw scores, and optional control scores. A computer scoring program is also available from the author which calculates the raw score data, produces factor scores and z-scores, and relates other variables to these scores. Parts of the computer program, relating to the raw score data for both students and teachers, to each other, and to other variables, were utilized in the present study. Refer to the manual (Marsh, 1988a) for a detailed description of scoring procedures.

Responses to the 64 positively-worded items are scored as follows: 1= False, 2= Mostly False, 3= Sometimes False/Sometimes True, 4= Mostly True, and 5= True. There are 8 positively-worded items comprising each of the 8 individual scale scores. Responses to the 12 negatively-worded items are reversed so that 1= True and 5= False. The negatively-worded items are not calculated in the individual scale or total scale raw scores. For each of the 8
individual scales the lowest possible total raw score is 8 and the highest possible total raw score is 40.

The individual scale raw scores are used to calculate the Total Academic, Total Nonacademic, and Total Self raw scores. The individual raw scale totals for Physical Abilities, Physical Appearance, Peer Relations, and Parent Relations are summed and then divided by 4 to obtain the Total Nonacademic raw score. Similarly, the raw scale totals for Reading, Mathematics, and General-School are summed and divided by 3 to obtain the Total Academic raw score. The Total Nonacademic and Total Academic raw scores are then summed and divided by 2 to obtain the Total-Self raw score. When calculating total scale scores, results are rounded to the nearest whole number. For each total score, the lowest possible raw score is 8 and the highest is 40, with higher scores generally indicative of a more positive self-concept.

Raw scores may then be converted to mid-interval percentiles and standard scores or non-normalized T-scores which have a mean of 50 and a standard deviation of 10. Normative comparisons are reported separately in the manual (Marsh, 1988a) for males and females in grades 2 to 4 and 5 to 6, respectively. Combined norm tables are also available.

D. DATA COLLECTION PROCEDURES

The data was collected over a three-month period from April 1990 to June 1990.
1. Students

In each of the 5 schools, all of the ESL students recruited were removed from their classes and given the Self-Description Questionnaire-1 at the same time in group session during a morning period. Administration of the SDQ-1 to the ESL students took approximately 25 minutes per school. To ensure standardized presentation and to circumvent potential reading problems, the student consent form or Request for Student Participation, the directions for the SDQ-1 on the front cover of the questionnaire, and each item on the SDQ-1 were read aloud to the ESL students by the present researcher (see Appendices B and D).

During the initial instructions and prior to administration of the questionnaire, the students were encouraged to ask the present researcher for clarification if they did not understand the wording or intent of a particular statement. In addition, several more bilingual students acted as translators. Throughout the sessions the subjects were observed and all appeared to comprehend. Students appeared to make responses at the appropriate times and they did not seem to make perseverative responses. On several occasions, students did ask for further explanation. For example, one student asked for clarification as to the type of "Reading" referred to in the questionnaire and another asked about the meaning of the word "athlete".

2. Teachers

After the ESL students in a particular school were administered the SDQ-1, the researcher personally handed the SDQ-1 questionnaires to the teachers, one per each ESL student recruited
in their class. The teachers were given written directions to follow and during this time they were encouraged to ask for clarification (see Appendix E).

In the two urban schools, the five ESL students' homeroom teachers completed the SDQ-1 scales, one per ESL student so recruited from their respective classes (i.e., 5 teachers and 34 students). One of the urban teachers responded to 15 questionnaires whereas the other three teachers responded to two, three, and five questionnaires respectively. The remaining urban teacher responded to nine SDQ-1 questionnaires. In the three suburban schools, however, due to an ESL Language Arts pull-out policy, the three ESL teachers responsible for the pull-out program decided, of their own accord, to collaborate with the 13 regular or homeroom teachers to coordinate responses to some of the SDQ-1 items for each student recruited (i.e., 16 teachers and 23 students). In two of the three suburban schools, the two ESL teachers each consulted with four classroom teachers on eight and six students, respectively. The third ESL teacher, in the remaining suburban school, consulted with five other teachers on nine students; two of the classroom teachers shared a homeroom class. For example, the suburban ESL teachers expressed concerns regarding their limited knowledge and experience in terms of an ESL student's ability or performance in math-related areas as well as in other subject areas, such as socials and science, which may not involve ESL instruction directly. However, for the suburban schools, only the three primary respondents, the ESL teachers, were included in the correlational comparisons.
In addition, many teachers from both school districts expressed concerns in terms of responding to some of the nonacademic SDQ-1 items, particularly those involving the student's parental relationships, a topic about which the teachers felt less familiar. Nevertheless, all of the teachers reported to give their best effort on each item presented and no items appeared to be deleted.

In addition, the teachers were asked to fill out a form for each of their ESL students in regard to the student's background history, if known (see Appendix E). Demographic information was thus obtained in terms of the student's age, grade, type of ESL program, country of origin, ethnicity, home language, number of years in Canada, and age on arrival in Canada. The information obtained may be used in subsequent or future studies.

3. Academic Achievement

The teachers were also requested to report the student's most recent grades or marks for both Mathematics and Reading or Language Arts as stated on the last report card (Spring session). If the ESL student did not receive report card marks, as in the suburban district, the teachers were asked to rate the student's performance on a scale from A to D or 1 to 4. This 4-point scale was later converted to an 8-point scale to include subtle differences in the values, where A=1, B+=2, B=3, B-=4, C+5, C=6, C-=7, and D=8, as indicated by the teachers' ratings (see Appendix E).

Teacher responses to the SDQ-1 and gathering of the background information was estimated to take approximately 15
minutes to complete per student. The teachers' data was picked up by the researcher at the school approximately the following week.

**E. DATA ANALYSIS**

Data was collected on eleven facets of self-concept (8 individual scales and 3 total scales) in order to determine the self-concept of the ESL student, teacher perception of that student's self-concept and whether, and to what degree, a relationship exists between the two. In addition, data was collected on the student's academic achievement in both reading and mathematics in order to determine whether, and to what degree, a relationship exists between these various facets of self-concept and academic achievement.

Means, standard deviations, and ranges were calculated for all the variables. Pearson correlations were computed to describe the strength, including the magnitude and direction, of any relationships found among these variables. Normally, a relationship is considered statistically significant when the Pearson Product-Moment Correlation Coefficient is at the alpha level of .05 or lower. Alpha levels of .05, .01 and .001 were used to determine the degree of statistical significance among relationships. However, given the relatively large number of correlations computed for this study and the relatively small sample size (N=57), a conservative approach was adopted in which alpha levels of .05 were treated as 'trends'. T-tests were used to determine if differences in means existed between variables. Analysis of the data was conducted using the computer program,
SPSS-X (SPSS. Inc., 1983) in conjunction with the Scoring Program for the SDQ (April 18, 1988).
IV: RESULTS

This chapter summarizes the results of the data analyses conducted and it describes these findings in terms of the research questions posed in Chapter Three. First, descriptive statistics are presented which relate to self-concept ratings for both student and teacher respondents. Academic achievement ratings and score distributions for Reading and Mathematics are then reported. Second, Pearson correlation coefficients used to examine the relationship among these variables are discussed. In addition, t-test comparisons are presented to determine if significant differences exist between variables. Finally, other findings of interest are reported as they relate to the present investigation.

A. DESCRIPTIVE STATISTICS

1. Self-Concept Ratings

The Self-Description Questionnaire-1 (SDQ-1) was used to measure eleven facets of self-concept as follows: The eight individual self-concept scales each consist of eight items and include four areas of nonacademic self-concept (Physical Abilities (PHYS), Physical Appearance (APPR), Peer Relations (PEER), and Parent Relations (PRNT)), three areas of academic self-concept (Reading (READ), Mathematics (MATH), and General-School (SCHL)), and a General-Self (GENL) scale. The three total self-concept scales (Total Nonacademic (NACD), Total Academic (ACD), and Total Self (TOTSLF)), each consist of scores based on individual scale score averages. For each of the eight individual scales and the
three total scales, the lowest possible raw score is 8 and the highest possible raw score is 40. SDQ-1 responses were calculated for all 11 scales for both the 57 ESL students and the 57 corresponding teacher perceptions involved in this study.

As noted in Chapter III, the fifty-seven teacher ratings represent perceptions based upon responses from the eight primary ESL teachers and the thirteen collaborating teachers. In order to simplify the reporting of SDQ-1 findings, scale score abbreviations PHYS, APPR, PEER, PRNT, READ, MATH, SCHL, GENL, NACD, ACD, and TOTSLF refer to the ESL student self-ratings, whereas the abbreviations TPHYS, TAPPR, TPEER, TPRNT, TREAD, TMATH, TSCHL, TGENL, TNACD, TACD, and TTOTSLF refer to the teacher perception ratings.

Table 4-1 shows the means, standard deviations, and ranges of self-concept responses obtained on the SDQ-1 for the present sample of 57 ESL students and their corresponding teacher ratings or perceptions. Comparisons to the normative sample described in the SDQ-1 manual (Marsh, 1988a) are also presented.

2. ESL Self-Concept and Normative Comparisons

In general, mean self-concept scores for the ESL student related closely to those for the normative sample on the SDQ-1. However, of the 11 possible scale score comparisons, mean ESL student self-concept scores tended to be consistently lower than those for the normative sample, except in the area of Mathematics (MATH) where the ESL student mean was higher. The mean score for ESL student MATH self-concept was 32.56 (SD=6.84), whereas the mean score for the normative sample was 28.78 (SD=8.83).
### Table 4-1

**Student, Teacher, and Normative Comparisons of Means and Standard Deviations on the SDQ-1**

<table>
<thead>
<tr>
<th>SDQ-1 Scale</th>
<th>Present Sample</th>
<th>Norm Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>PHYS</td>
<td>27.21</td>
<td>6.30</td>
</tr>
<tr>
<td>TPHYS</td>
<td>28.33</td>
<td>8.76</td>
</tr>
<tr>
<td>APPR</td>
<td>25.91</td>
<td>5.30</td>
</tr>
<tr>
<td>TAPPR</td>
<td>28.30*</td>
<td>6.02</td>
</tr>
<tr>
<td>PEER</td>
<td>28.44</td>
<td>4.97</td>
</tr>
<tr>
<td>TPEER</td>
<td>28.35</td>
<td>5.89</td>
</tr>
<tr>
<td>PRNT</td>
<td>33.68</td>
<td>4.38</td>
</tr>
<tr>
<td>TPRNT</td>
<td>28.35**</td>
<td>5.89</td>
</tr>
<tr>
<td>READ</td>
<td>26.18</td>
<td>6.49</td>
</tr>
<tr>
<td>TREAD</td>
<td>27.05</td>
<td>7.04</td>
</tr>
<tr>
<td>MATH</td>
<td>32.56</td>
<td>6.84</td>
</tr>
<tr>
<td>TMATH</td>
<td>32.54</td>
<td>6.53</td>
</tr>
<tr>
<td>SCHL</td>
<td>27.26</td>
<td>4.78</td>
</tr>
<tr>
<td>TSCHL</td>
<td>27.91</td>
<td>6.27</td>
</tr>
<tr>
<td>GENL</td>
<td>28.90</td>
<td>4.85</td>
</tr>
<tr>
<td>TGENL</td>
<td>29.75</td>
<td>4.31</td>
</tr>
<tr>
<td>NACD</td>
<td>28.81</td>
<td>3.48</td>
</tr>
<tr>
<td>TNACD</td>
<td>28.46</td>
<td>4.18</td>
</tr>
<tr>
<td>ACD</td>
<td>28.67</td>
<td>4.28</td>
</tr>
<tr>
<td>TACD</td>
<td>29.17</td>
<td>5.56</td>
</tr>
<tr>
<td>TOTSLF</td>
<td>28.74</td>
<td>3.33</td>
</tr>
<tr>
<td>TTOTSLF</td>
<td>28.82</td>
<td>4.16</td>
</tr>
</tbody>
</table>

**Note.** Present sample N=57; Normative sample N=3,563

'T' refers to teacher ratings.

Scale scores may range from 8 (lowest) to 40 (highest).

*a=Range scores rounded to nearest whole number.

* Significant t-test differences computed at the .05 level.

** Significant t-test differences computed at the .001 level.
For both the ESL student and the normative sample, the highest mean self-concept score was in the area of Parent Relations (PRNT: ESL M=33.68, SD=4.38; Norm M=35.45, SD=5.13) and lowest in the area of Physical Appearance (APPR: ESL M=25.91, SD=5.30; Norm M=27.49, SD=8.48). For the ESL student, the mean self-concept score for Reading was lower than the mean self-concept score for Mathematics (READ: ESL M=26.18, SD=6.49 and MATH: ESL M=32.56, SD=6.84). However, for the normative sample, the reverse was true such that the mean self-concept in Reading was higher than the mean self-concept in Mathematics (READ: Norm M=31.28, SD=7.48 and MATH: Norm M=28.78, SD=8.83).

Overall, standard deviation scores for the ESL student tended to vary from those for the normative sample. Consistently higher standard deviation scores were reported for the normative sample with the exception of self-concept ratings for Physical Abilities which was very similar for both the ESL student and the normative sample (PHYS: ESL M=27.21, SD=6.30; Norm M=32.65, SD=6.28). The highest standard deviation score for the ESL student was in Mathematics self-concept (MATH: ESL M=32.56, SD=6.84), followed by Reading self-concept (READ: ESL: M=26.18, SD=6.49) and the lowest was in Total-Self (TOTSLF: ESL M=28.74, SD=3.33). For the normative sample, the highest standard deviation score was also in Mathematics (MATH: Norm M=28.78, SD=8.83), followed by Physical Appearance (APPR: Norm M=27.49, SD=8.48). Similar to the present ESL sample, the lowest standard deviation score for the normative sample was in Total-Self self-concept (TOTSLF: Norm M=30.89, SD=4.69).
3. **ESL Self-Concept and Teacher Perception Comparisons**

In general, the mean teacher perception ratings were slightly higher than the ESL student self-concept ratings in most areas. However, for 3 of the 11 (27%) SDQ-1 scales, the range of scores for teacher ratings (TAPPR, TREAD, and TGENL) were narrower than those for the ESL student self-ratings. In all three cases, the range of teacher perception scores started at a higher level than those for the ESL student. Of the 11 SDQ-1 mean scale score comparisons between ESL student and teacher perceptions, only two were statistically significant, Physical Appearance (APPR-TAPPR: t=-2.39, p<.05) and Parent Relations (PRNT-TPRNT: t=5.72, p<.001).

For Physical Appearance, the mean ESL student self-rating score (APPR) was 25.91 (SD=5.30), whereas the mean teacher perception score (TAPPR) was 28.30 (SD=6.02). The difference of -2.386 (SD=7.53) between the two scores indicates a significantly lower student self-concept rating in the area of Physical Appearance. Also, for Physical Appearance, the range of scores for ESL self-concept (APPR: 9-40) was wider than for teacher perception ratings (TAPPR: 16-40).

For Parent Relations the mean ESL student self-rating score (PRNT) was 33.69 (SD=4.38), whereas the mean teacher rating (TPRNT) was 28.35 (SD=5.89). The difference of 4.82 (SD=6.37) between the two scores indicates a significantly lower teacher perception rating in the area of Parent Relations. Also, for Parent Relations, the range of scores for teacher ratings (TPRNT: 10-40) was narrower than for the ESL student (PRNT: 21-40).

Interestingly, for both the ESL student and teacher perception ratings in the area of Mathematics, both the mean self-
concept scores and the standard deviations scores were almost exactly the same ((MATH: M=32.56, SD=6.89; TMATH: M=32.54, SD=6.53). However, for Mathematics self-concept, the range of scores for the ESL student (MATH: 15-40) was narrower than the range of scores for the teacher perception ratings (TMATH: 10-40). Similarly, for Physical Abilities, the range of scores for the ESL student (PHYS: 13-39) was narrower than for the teacher perception ratings (TPHYS: 8-40).

Also, mean self-concept ratings for both the ESL student and the teacher perception were very similar in the areas of General-School or all school subjects (SCHL: M=27.26, SD=4.78; TSCHL: M=27.91, SD=6.27), Total Nonacademic self-concept (NACD: M=28.81, SD=3.48, TNACD: M=28.46, SD=4.18), and Total-Self self-concept (TOTSLF: M=28.74, SD=3.33; TTOTSLF: M=38.82, SD=4.16).

Furthermore, for self-concept ratings in Mathematics, General-School, Total Nonacademic, and Total-Self areas, mean score comparisons between the ESL student and teacher perception ratings appear more similar and consistent with each other than with the SDQ-1 normative sample.

4. **Reading and Mathematics Academic Achievement**

Reading and Mathematics academic achievement scores were calculated for the 57 ESL students involved in this study based on each student's most recent (spring) report card grades. If report card grades were not available, teachers were asked to rate the student's academic performance. Academic grades and teacher ratings of achievement were calculated on an 8-point scale with possible academic achievement scores ranging from a high of 1 to a
low of 8. Scores were rated as follows: 1=A, 2=B+, 3=B, 4=B-, 5=C+, 6=C, 7=C-, 8=D.

Table 4-2 shows the distribution of Reading and Mathematics academic achievement scores corresponding to point scale values and letter grades or ratings of achievement for the sample of 57 ESL students involved in this study.

<table>
<thead>
<tr>
<th>Score Values</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cum.%</th>
<th>Score Values</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cum.%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>6</td>
<td>10.5</td>
<td>24</td>
<td>42.1</td>
<td>42.1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>B+</td>
<td>1</td>
<td>1.8</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>3</td>
<td>B</td>
<td>11</td>
<td>19.3</td>
<td>23</td>
<td>40.1</td>
<td>82.5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>B-</td>
<td>1</td>
<td>1.8</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>5</td>
<td>C+</td>
<td>5</td>
<td>10.5</td>
<td>4</td>
<td>7.0</td>
<td>89.5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>C</td>
<td>16</td>
<td>28.1</td>
<td>5</td>
<td>8.8</td>
<td>98.2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>C-</td>
<td>10</td>
<td>17.5</td>
<td>1</td>
<td>1.8</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>D</td>
<td>6</td>
<td>10.5</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. N=57

Score values range from 1 or A (highest) to 8 or D (lowest). RMARK refers to Reading mark or rating score. MMARK refers to Mathematics mark or rating score.

A comparison of the academic achievement scores in Reading (RMARK) and Mathematics (MMARK) as presented in Table 4-2 indicates differences in frequency distributions between the two. For example, 47 (82.5%) of the 57 ESL students obtained Mathematics achievement scores of 3 or better, corresponding to letter grades or ratings of A and B. However, only 18 students (31.6%) obtained similar achievement scores in Reading with the
majority, or 26 (45.6%), of the 57 ESL students obtaining Reading achievement scores between 6 and 7 or C and C-.

Table 4-3 shows the means, standard deviations, and ranges obtained for both Reading (RMARK) and Mathematics (MMARK) as indicated by either the student's report card grades or teacher ratings of the student's academic achievement.

Table 4-3

Means and Standard Deviations for Reading and Mathematics Academic Achievement

<table>
<thead>
<tr>
<th>Academic Achievement</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Mean</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMARK</td>
<td>5.07</td>
<td>2.15</td>
<td>1-8</td>
<td>2.44</td>
<td>9.01*</td>
</tr>
<tr>
<td>MMARK</td>
<td>2.63</td>
<td>1.72</td>
<td>1-7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N=57
Academic achievement scores range from a possible 1 (highest) to 8 (lowest).
* Significant at the .001 level

Of the 57 students who participated in this study, Reading achievement scores (RMARK) ranged between a minimum of 1 and a maximum of 8, corresponding to letter grades or ratings of A to D. The average or mean Reading score for the sample was 5.07 which indicates a letter grade or rating of C+.

On the other hand, Mathematics achievement scores (MMARK) ranged between a minimum of 1 and a maximum of 7, corresponding to letter grades or ratings of A to C-, on a possible scale of 1 to 8 or A to D. The sample mean score was 2.63, indicating a letter grade or rating between B and B+. 
A t-test was conducted to determine the extent of difference between the means for Reading (RMARK) and Mathematics (MMARK) academic achievement scores. The resulting mean score difference of 2.44 (SD=2.04) was highly significant (t=9.01, p<.001).

B. PEARSON PRODUCT MOMENT CORRELATIONS

Pearson correlation matrices were computed in order to determine the relationships among and between the following variables: ESL self-concept, teacher perception of ESL self-concept, and academic achievement. Correlations were calculated for all 11 scales on the SDQ-1 to include both student and teacher ratings for all 57 subjects involved in the present investigation. In addition, correlation coefficients were computed for academic achievement in Reading and in Mathematics as indicated by the student's report card grades or teacher ratings of student achievement. Correlational directions involving academic achievement data (RMARK and MMARK) were reversed in order to parallel data collection on the SDQ-1.

A 24 variable by 24 variable matrix generated 276 possible Pearson Product-Moment correlations, excluding each variable correlated with itself. Of these 276 correlations, 129 (47%) were found to be significant, including 36 (13%) at p<.05, 17 (6%) at p<.01, and 76 (28%) at p<.001. The overall results are presented in Appendix H. For clarity of presentation, the results of the Pearson correlations are reported in the subsequent sections, corresponding to Tables 4-4 to 4-7 as follows: Table 4-4 refers to the correlations between the ESL self-concept scale scores on
the SDQ-1 for the 57 ESL students involved in this study. Table 4-5 presents the correlations between teacher perception scale scores for the same 57 ESL students. Table 4-6 displays the correlations between ESL self-concept and teacher perception scale scores. Table 4-7 refers to the correlations between ESL self-concept scale scores and academic achievement scores in Reading and in Mathematics. Table 4-7 also presents the correlations between teacher perception scale scores and academic achievement scores in Reading and in Mathematics and it notes the correlation between academic scores in Reading and in Mathematics.

1. Correlations between ESL Self-Concept Scores

A Pearson correlation matrix was computed between scale scores on the SDQ-1 in order to determine the relationships between various facets of self-concept for the ESL student. The results are presented in Table 4-4 and may be summarized as follows:

The correlations between ESL self-concept scale scores generated 41 (75%) significant coefficients out of a possible 55, including 5 at p<.05, 6 at p<.01, and 30 at p<.001 (see Table 4-4). Correlations ranged from nonsignificant and near zero between PRNT and MATH (r=.0013) to highly significant and substantial between ACD and TOTSLF (r=.89, p<.001). Overall, for the ESL student, the strongest self-concept correlations were between the total scales themselves (TOTSLF and ACD: r=.89, p<.001; TOTSLF and NACD: r=.82, p<.001) and between NACD and PEER (r=.82, p<.001), followed by TOTSLF and APPR (r=.77, p<.001), NACD and SCHL (r=.76,
Table 4-4

Pearson Product-Moment Correlations for ESL Student Self-Concept

<table>
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<tr>
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<th>PHYS</th>
<th>APPR</th>
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<th>PRNT</th>
<th>READ</th>
<th>MATH</th>
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<tr>
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<tr>
<td>NACD</td>
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<tr>
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<tr>
<td>TOTSLF</td>
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<td>0.77***</td>
<td>0.62***</td>
<td>0.28*</td>
<td>0.66***</td>
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<td>0.69***</td>
<td>0.82***</td>
<td>0.89***</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. N=57 student ratings
Correlations are rounded to two decimal places.
* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
p<.001), TOTSLF and SCHL (r=.71, p<.001), TOTSLF and GENL (r=.69, p<.001), NACD and PHYS (r=.69, p<.001).

In general, of the 8 correlations between individual self-concept scales and matching total self-concept scales, 7 out of 8, or the majority (88%), correlated substantially and significantly (PHYS-NACD: r=.69, p<.001; APPR-NACD: r=.73, p<.001; PEER-NACD: r=.82, p<.001; READ-ACD: r=.70, p<.001; MATH-ACD: r=.68, p<.001; SCHL-ACD: r=.68, p<.001; and GENL-TOTSLF: r=.69, p<.001, respectively) as expected from previous SDQ studies (Marsh, 1988a). In fact, only self-concept in Parent Relations correlated moderately and less significantly (PRNT-NACD: r=.36, p<.01).

Interestingly, ESL self-concept in Physical Appearance and Peer Relations also correlated significantly, although relatively less strongly with Total Academic self-concept (APPR-ACD: r=.60, p<.001 and PEER-ACD: r=.30, p<.05, respectively). Similarly, General-School or all school subjects also correlated moderately and significantly with Total Nonacademic self-concept (SCHL-NACD: r=.43, p<.001).

Also, of the 3 correlations between the Total self-concept scales, both Total Nonacademic and Total Academic self-concepts correlated strongly with the Total-Self scale (NACD=TOTSLF: r=.82 and ACD-TOTSLF: r=.89; p<.001, respectively) whereas Total Nonacademic and Total Academic self-concept scales correlated significantly but only moderately (NACD-ACD: r=.47, p<.001). As expected from the review of previous SDQ research (Marsh, 1988a), the present correlation between READ an MATH self-concepts was nonsignificant and near zero (r=.04).
Interestingly, the weakest and the fewest correlations for the ESL student were found between PRNT and the other individual self-concept scales (ranging from PRNT-MATH: *r* = .00 to PRNT-NACD: *r* = .36, *p* < .01). Also, one inverse and nonsignificant correlation was found for ESL self-concept comparisons between PRNT and PHYS (*r* = -.15).

2. **Correlations between Teacher Perception Scores**

A Pearson correlation matrix was computed between scale scores on the SDQ-1 in order to determine the relationships between various facets of self-concept for teacher ratings of ESL student self-concept. The results are presented in Table 4-5 and may be summarized as follows:

The correlations between scale scores for teacher perception of ESL student self-concept generated a total of 47 (86%) significant coefficients out of a possible 55 correlations, including 9 at *p* < .05, 6 at *p* < .01, and 32 at *p* < .001. The correlations ranged from nonsignificant and near zero between TPEER and TMATH (*r* = .04) to highly significant and substantial between TACD and SCHL (*r* = .94, *p* < .001). Overall, the number of substantial correlations appears somewhat greater and stronger among the teacher ratings than those reported for the ESL students. For teacher inferences, the highest self-concept correlations were found among the total scales and in particular in relation to academic areas (TACD and SCHL: *r* = .94, *p* < .001, TTOTSLF and TSCHL: *r* = .89, *p* < .001; TTOTSLF and TACD: *r* = .89, *p* < .001; TACD and TREAD: *r* = .84, *p* < .001; TTREAD and TSCHL: *r* = .79, *p* < .001; TSCHL and TGENL: *r* = .79, *p* < .001; TACD and TGENL: *r* = .74, *p* < .001;
### Table 4-5

**Pearson Product-Moment Correlations for Teacher Perception**

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<th>TPHYS</th>
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<th>TPEER</th>
<th>TPRNT</th>
<th>TREAD</th>
<th>TMATH</th>
<th>TSCHL</th>
<th>TGENL</th>
<th>TNACD</th>
<th>TACD</th>
<th>TTOTSLF</th>
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<tr>
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<td>1.00</td>
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<tr>
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<td>0.34**</td>
<td>0.79***</td>
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</tr>
<tr>
<td>TGENL</td>
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<td>0.70***</td>
<td>0.53***</td>
<td>0.44***</td>
<td>0.61***</td>
<td>0.48***</td>
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<td>0.32**</td>
<td>0.53***</td>
<td>0.70***</td>
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<tr>
<td>TACD</td>
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<td>0.33**</td>
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<td>0.94***</td>
<td>0.74***</td>
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<tr>
<td>TTOTSLF</td>
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<td>0.62***</td>
<td>0.53***</td>
<td>0.42***</td>
<td>0.71***</td>
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<td>0.89***</td>
<td>0.85***</td>
<td>0.80***</td>
<td>0.89***</td>
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</tr>
</tbody>
</table>

**Note.** N=57 student ratings and 57 teacher ratings
* Correlations are rounded to two decimal places.
* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
Similar to the findings for ESL self-concept, 7 out of 8, or the majority (88%) of individual self-concept scales correlated significantly and substantially with matching total self-concept scales (TPHYS-TNACD: $r = .67$; TAPPR-TNACD: $r = .71$; TPEER-TNACD: $r = .77$; TREAD-TACD: $r = .84$; TMATH-TACD: $r = .74$; TSCHL-TACD: $r = .94$; and TGENL-TTOTSLF: $r = .85$; $p < .001$, respectively). Furthermore, similar to the findings for ESL student self-concept, teacher perception ratings for Parent Relations correlated significantly but only moderately with Total Nonacademic self-concept (TPRNT-TNACD: $r = .39$, $p < .001$). Interestingly and unlike the findings for the ESL student, teacher perception ratings for Parent Relations also correlated significantly, although moderately low, with teacher ratings for ESL student self-concept in Reading, General-School, and Total Academic self-concept areas (TPRNT-TREAD: $r = .38$, $p < .01$; TPRNT-TSCHL: $r = .34$, $p < .01$; and TPRNT-TACD: $r = .33$, $p < .01$). However, similar to the ESL student self-concept findings, teacher perception ratings for Parent Relations did not correlate significantly with teacher ratings of ESL student self-concept in Mathematics (TPRNT-TMATH: $r = .12$). Also, similar to the ESL student self-rating, teacher perception of General-School or all school subjects correlated significantly, although less strongly, with Total Nonacademic self-concept (TSCHL-TNACD: $r = .53$, $p < .001$).

Of the 3 significant correlations between the total self-concept scales, strong correlations were found between Total Nonacademic and Total-Self scales and between Total Academic self-concept and Total-Self (TNACD-TTOTSLF: $r = .80$ and TACD-TTOTSLF: ...)
r=.89; p<.001, respectively) and a moderate correlation was indicated between Total Nonacademic and Total Academic self-concept scales (TNACD-TACD: r=.45, p<.001). These results also appear consistent with correlational findings for the ESL student among and between total scale scores.

Unlike the near zero correlation finding between Reading and Math self-concepts for the ESL student, the correlation between TREAD and TMATH was significant but moderately low (r=.31, p<.01). The weakest correlations for teacher's perceptions were found between the TPHYS scale and the other self-concept scales, although 5 correlations were significant at the p<.05 and 2 at p<.001. Similar to findings for the ESL student, one inverse and nonsignificant correlation was found between TPRNT and TPHYS (r=-.15).

3. Correlations between ESL Self-Concept and Teacher Perception

A Pearson correlation matrix was computed between ESL student self-concept and teacher perception of ESL student self-concept on the SDQ-1 in order to determine the relationships between various facets of self-other agreement, particularly in matching areas of self-concept. The results are displayed in Table 4-6 and may be summarized and follows:

In general, correlations between ESL student and teacher perception appeared to be fewer in number and weaker than correlations among scale scores measuring ESL student self-concept and teacher perception ratings of ESL self-concept alone (see also Tables 4-4 and 4-5). Of the 121 possible correlations between
### Table 4-6

**Pearson Product-Moment Correlations for ESL Student Self-Concept and Teacher Perception**

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<th>MATH</th>
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<th>GENL</th>
<th>NACD</th>
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<td>.12</td>
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<td>.08</td>
<td>.11</td>
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<td>.29*</td>
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<td>-.06</td>
<td>-.12</td>
<td>-.07</td>
<td>-.05</td>
<td>-.07</td>
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</table>

**Note.** N=57 student ratings and 57 teacher ratings

Correlations are rounded to two decimal places. Correlations in boldface refer to student-teacher agreement on matching self-concepts.

* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
student and teacher, only 18 (15%) were found to be significant. Of the 18 correlations, the majority or 15 were significant at p<.05 and over half of these or 9, correlated negatively. One of the 18 correlations was significant at p<.01 (READ-TPRNT) and 2 (11%) were significant at <.001 (PHYS-TPHYS and PEER-TPEER).

Furthermore, of the 11 possible correlations for student-teacher agreement in matching self-concept areas, significant correlations were found on only 4 (36%) of the self-concept scales. Of these, half of the self-concept correlations were significant at p<.05 (MATH-TMATH and NACD-TNACD) and half were significant at p<.001 (PHYS-TPHYS and PEER-TPEER).

Overall, coefficients between ESL student and teacher perception in matching self-concept areas ranged between moderately strong and significant in Physical Abilities (PHYS-TPHYS: r=.52, p<.001) and Peer Relations (PEER-TPEER: r=.46, p<.001), followed by moderately low and significant 'trends' in Mathematics (MATH-TMATH: r=.29, p<.05) and Total Nonacademic self-concept (NACD-TNACD: r=.24, p<.05), to very low and nonsignificant in Parent Relations (PRNT-TPRNT: r=.11), Physical Appearance (APPR-TAPPR: r=.12), and Reading self-concept (READ-TREAD: r=.16), to negative and nonsignificant in total Academic self-concept (ACD-TACD: r=-.05), Total-Self (TOTSLF-TTOTSLF: r=-.07), and General-School self-concept (SCHL-TSCHL: r=-.08). A negative but nonsignificant correlational 'trend' was also noted between ESL student self-concept of Physical Abilities and teacher perception of student Parent Relations (PHYS-TPRNT: r=-.21).

Interestingly and surprisingly, ESL student and teacher agreement in matching self-concept areas appeared to be stronger
in nonacademic areas, particularly in terms of specific self-concepts of Physical Abilities and Peer Relations, and in terms of overall or Total Nonacademic self-concept. On the other hand, student-teacher agreement in Mathematics self-concept, although significant, was moderately low, and the correlation between student and teacher Reading self-concepts was nonsignificant and very low.

The majority of the 121 possible correlations or 103 (85%) were nonsignificant and 69 (57%) were inverse or negative. Also, of the 121 possible correlations, 27 (22%) were positive and near zero while 35 (29%) were negative and near zero.

4. Correlations between ESL Self-Concept and Academic Achievement

Correlational coefficients were computed in order to determine the relationships between various facets of ESL self-concept on the SDQ-1 and student academic achievement in Reading and in Mathematics. Correlational directions involving academic achievement data were reversed in order to parallel data collection on the SDQ-1. The results are reported in Table 4-7 and may be summarized as follows:

Correlations between ESL student self-concept and academic achievement in Reading (RMARK) and Mathematics (MMARK) were found to be mostly nonsignificant and often negative. Of the 11 possible correlations between ESL self-concept and Reading academic achievement, none were found to be significant. Six (55%) of the 11 coefficients were negative and 8 (73%) were near zero. Correlations between ESL self-concept and Reading
### Table 4-7

**Correlations between Academic Achievement, ESL Self-Concept, and Teacher Perception**

#### Academic Achievement and ESL Self-Concept

<table>
<thead>
<tr>
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<th>PHYS</th>
<th>APPR</th>
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#### Academic Achievement and Teacher Perception

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<th>TAPPR</th>
<th>TPEER</th>
<th>TPRNT</th>
<th>TREAD</th>
<th>TMAH</th>
<th>TSCHL</th>
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<th>TNCAD</th>
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<td>RMARK</td>
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<td>.27*</td>
<td>.32**</td>
<td>.64***</td>
<td>.25*</td>
<td>.58***</td>
<td>.48***</td>
<td>.23*</td>
<td>.58***</td>
<td>.51***</td>
</tr>
<tr>
<td>MMARK</td>
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<td>.17</td>
<td>.15</td>
<td>-.21</td>
<td>.54***</td>
<td>.62***</td>
<td>.55***</td>
<td>.39***</td>
<td>.31**</td>
<td>.68***</td>
<td>.61***</td>
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</table>

Note. N=57 student ratings and 57 teacher ratings of ESL student self-concept

Correlations are rounded to two decimal places. Correlational directions involving academic achievement (RMARK and MMARK) are reversed to parallel data collection on the SDQ-1.

RMARK-MMARK: r=.46, p<.001.

* Significant 'trend' at the .05 level

** Significant at the .01 level

*** Significant at the .001 level
achievement ranged from negative and near significant (PHYS-RMARK: \( r = -0.20 \)) to zero and nonsignificant (PRNT-RMARK: \( r = 0.00 \)). Notably, ESL Reading self-concept did not correlate significantly with Reading achievement and, in fact, the correlation between the two was near zero (READ-RMARK \( r = 0.05 \)).

Of the 11 possible correlations between ESL self-concept and Mathematics, only 2 (18%) were found to be significant and both were negative and moderately low (APPR-MMARK: \( r = -0.34, p < 0.01 \); NACD-MMARK: \( r = -0.32, p < 0.01 \)). Ten (91%) of the 11 correlations were negative and 2 (18%) were near zero. Overall, correlations between ESL self-concept and Mathematics achievement ranged between \( r = -0.34, p < 0.01 \) (APPR-MMARK) to nonsignificant \( r = 0.08 \) (PRNT-MMARK and ACD-MMARK, respectively). The one positive correlation between ESL Mathematics self-concept and Mathematics academic achievement was also nonsignificant and very low (MATH-MMARK: \( r = 0.12 \)). Although not quite significant at \( p < 0.05 \), a negative correlational trend was noted between ESL student Total-Self self-concept and academic achievement in Mathematics (TOTSLF-MMARK: \( r = -0.22 \)).

5. **Correlations between Teacher Perception and Academic Achievement**

Correlational coefficients were computed in order to determine the relationships between teacher ratings of various facets of ESL self-concept on the SDQ-1 and student academic achievement in Reading and in Mathematics. Correlational directions involving academic achievement data (RMARK and MMARK) were reversed in order to parallel data collection on the SDQ-1.
The results are also reported in Table 4-7 and may be summarized as follows:

In contrast to the correlations between ESL student self-concept and academic achievement, correlations between teacher perception of ESL self-concept and academic achievement in Reading (RMARK) and Mathematics (MMARK) were mostly significant and positive. Overall, the highest correlation between teacher ratings and academic achievement in Reading was with the specific area of Reading self-concept (TREAD-RMARK: $r=.64$, $p<.001$), whereas the highest correlation between teacher ratings and academic achievement in Mathematics was with Total Academic self-concept, followed closely with specific Mathematics self-concept (TACD-MMARK: $r=.68$ and TMATH-MMARK: $r=.62$; $p<.001$, respectively).

Of the 11 correlations between teacher ratings and Reading achievement (RMARK), 9 (82%) were found to be significant. Three (33%) of the 9 correlations were significant at $p<.05$, 1 (11%) at $p<.01$, and the majority, or 5 (56%), were significant at $p<.001$. Only 1 (9%) of the 11 correlations was nonsignificant (TAPPR-RMARK: $r=.16$) and only 1 (9%) was nonsignificant and negative (TPHYS-RMARK: $r=-.03$). Coefficients ranged from moderately strong and highly significant (TREAD-RMARK) to negative, near zero, and nonsignificant (TAPPR-RMARK). Positive correlations ranged from moderately strong and highly significant (TREAD-READ: $r=.64$, $p=.001$) to low and nonsignificant (TAPPR-RMARK: $r=.16$). Reading academic achievement also correlated substantially and significantly with Reading, General-School, Total Academic, Total-Self, and General-Self self-concepts (TREAD-RMARK: $r=.64$, TSCHL-RMARK: $r=.58$, TACD-RMARK: $r=.58$, TTOTSLF-RMARK: $r=.51$, and TGENL-
RMARK: $r=.48$, respectively; $p<.001$), followed by significant but moderately low correlations with Parent Relations, Peer Relations, Mathematics, and Total Nonacademic self-concepts (TPRNT-RMARK: $r=.32$, $p<.01$; TPEER-RMARK: $r=.27$, $p<.05$; TMATH-RMARK: $r=.25$, $p<.05$; and TNACD-RMARK: $r=.23$, $p<.05$).

Of the 11 correlations between teacher perception of ESL student self-concept and academic achievement in Mathematics, 8 (73%) were found to be significant. Of these 8 correlations, 1 (13%) was significant at $p<.05$, 1 (13%) at $p<.01$, and the majority, or 6 (75%), were significant at $p<.001$. Only one correlation was negative and almost a significant 'trend' at $p<.05$ (TPRNT-MMARK: $r=-.21$). Coefficients ranged from substantial and highly significant (TACD-MMARK: $r=.68$, $p<.001$) to low and nonsignificant (TPEER-MMARK: $r=.15$). Mathematics academic achievement also correlated substantially with teacher ratings of ESL student self-concepts in Mathematics, Total-Self, General-School, and Reading self-concept areas (TMATH-MMARK: $r=.62$, TTOTSLF-MMARK: $r=.61$, TSCHL-MMARK: $r=.55$, TREAD-MMARK: $r=.54$; $p<.001$, respectively), followed by significant but lower correlations with General-Self, Total Nonacademic, and Physical Abilities self-concepts areas (TGENL-MMARK: $r=.39$, $p<.001$; TNACD-MMARK: $r=.31$, $p<.01$; and TPHYS-MMARK: $r=.25$, $p<.05$). No significant correlations were found between academic achievement in Mathematics and teacher perception of ESL student self-concepts in Physical Appearance or Peer Relations ($r=.17$ and $r=.15$, respectively). A negative and almost significant 'trend' at $p<.05$ was also noted between Mathematics achievement and teacher perception of Parent Relations (TPRNT-MMARK: $r=-.21$).
6. **Correlations between Reading and Mathematics Academic Achievement**

Correlations were computed between academic achievement scores in Reading and in Mathematics in order to determine their relationship. Overall, the results reveal that ESL academic achievement in Reading and Mathematics correlated moderately and significantly with each other (RMARK-MMARK: r=.46, p<.001). This finding is consistent with the results of previous studies (Marsh, 1988a).

C. **T-TESTS**

Additional t-test comparisons were conducted in order to examine the differences between various demographic and background variables as they might relate to ESL student self-concept and teacher perception of ESL student self-concept in the present investigation. Only significant findings of interest are reported in Table 4-8 and may be explored further in subsequent or future research. Overall, significant differences between means were found for both student and teacher self-concept ratings, in terms of sex, district, birth place, and ethnic group comparisons. The results are summarized in the following sections.

1. **Sex Differences**

T-test comparisons indicated significant sex differences between males (n=28) and females (n=29) in Physical Abilities self-concepts for both ESL student (t=4.23, p<.001) and teacher perception ratings (t=2.87, p<.01). Self-concept ratings by
Table 4-8

Means, Standard Deviations, and t-Test Values for Significant Demographic Differences Related to ESL Self-Concept and Teacher Perception

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<th>Variable Scale</th>
<th>Group</th>
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</table>

Note. N=57; H.K. refers to Hong Kong Chinese students
* Significant at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
students and by teachers were higher for males (PHYS: M=30.36, SD=5.46 and TPHYS: M=31.50, SD=5.43, respectively) than for females (PHYS: M=24.17, SD=5.58 and TPHYS: M=24.17; SD=5.58, respectively).

T-test comparisons in Reading also indicated significant sex differences for both ESL students (t=2.19, p<.05) and teacher perception ratings (t=2.11, p<.05). Reading self-concept ratings by ESL students and by teachers were higher for females (READ: M=27.97, SD=5.28 and TREAD: M=28.93, SD=6.30) than for males (READ: M=24.32, SD=7.18 and TREAD: M=25.11, SD=7.34). The present findings for both Physical Abilities and Reading self-concepts appear to be consistent with sex stereotypes as reported in the literature (e.g., Meece et al, 1982). No other significant sex differences were found for the other self-concept areas.

2. **District Differences**

T-test comparisons between districts indicated significant differences between urban (n=34) and suburban (n=23) ESL students in Mathematics self-concept both for ESL student self-ratings (t=3.10, p<.01) and for teacher perception ratings (t=3.76, p<.001). For both student and teacher respondents, mean Mathematics self-concept ratings were higher for the suburban ESL students (MATH: M=35.74, SD=4.78 and TMATH: M=35.87, SD=4.35, respectively) than for the urban ESL students (MATH: M=30.41, SD=7.24 and TMATH: M=30.29, SD=4.35, respectively).
3. Birth Place

T-test comparisons between Canadian-born Chinese ESL students (n=6) and ESL students born in other countries (n=51) revealed significant differences in teacher perception of ESL student self-concept in the areas of Mathematics (TMATH: t=2.43, p<.05), Total Academic (TNACD: t=2.22, p<.05), and Total-Self (TTOTSLF: t=2.38, p<.05). For teacher perception ratings in these areas, mean scores were higher for the ESL students born in other countries (TMATH: M=33.24, SD=5.99; TNACD: M=28.87, SD=4.02; and TTOTSLF: M=29.25, SD=3.98, respectively) than for the Canadian-born ESL students (TMATH: M=26.67, SD=8.52; TNACD: M=25.00, SD=4.21; and TTOTSLF: M=25.14, SD=4.17, respectively). However, the numbers of students represented in each sample are notably small and disproportionate.

4. Ethnicity

T-test comparisons between the ESL students from Hong Kong (n=40) and ESL students from all other ethnic groups (n=17) revealed a significant difference in ESL student self-concept for Peer Relations (PEER: t=2.40, p<.05). A similar directional 'trend', although not quite significant at p<.05, was noted in the area of Total Nonacademic self-concept for the ESL students (NACD: t=1.98). For both Peer Relations and Total Nonacademic self-concepts, mean ratings were higher for the other ethnic groups (PEER: M=30.76, SD=5.24 and NACD: M=30.17, SD=4.18, respectively) than for the Hong Kong Chinese students (Peer: M=27.25, SD=4.56 and NACD: M=28.23, SD=3.00, respectively).
For teacher ratings of ESL student self-concept, t-test comparisons indicated significant differences between the students from Hong Kong and the students from other ethnic groups in Mathematics (TMATH: $t=2.55$, $p<.05$) and in Total Academic self-concepts (TACD: $t=2.03$, $p<.05$). For both Mathematics and Total Academic self-concept ratings by teachers, mean ratings were higher for the Hong Kong Chinese ESL students (TMATH: $M=34.15$, $SD=5.08$ and TACD: $M=30.12$, $SD=5.37$, respectively) than for the ESL students from the other ethnic groups (TMATH: $M=28.76$, $SD=8.04$ and TACD: $M=26.94$, $SD=5.49$, respectively). Again, however, the small and disproportionate numbers of students representing each sample are noteworthy.
V: DISCUSSION AND CONCLUSION

The purpose of the present exploratory study as it applies to English as a second language (ESL) students was two-fold:

1. To examine the relationship between a student's self-concept and teacher perception of that student's self-concept; and,

2. To examine the extent to which student self-concept and teacher perception of student self-concept relate to academic achievement in Reading and in Mathematics.

For this investigation, fifty-seven ESL students, ages 10 to 12 years and currently in grades 5 and 6 were recruited from two school districts along with their corresponding teachers. Both the ESL students and their teachers were administered the Self-Description Questionnaire-1. The ESL student's most recent report card grades or teacher ratings of student academic achievement were collected. Additional background and demographic information, regarding the students and the schools, was gathered from both teacher and principal reports. The ESL student self-concept data was then compared and contrasted with the inferred teacher ratings of ESL student self-concept. Similarly, both the ESL student self-ratings and the teacher perception ratings were compared and contrasted with the student's academic achievement in Reading and in Mathematics. Statistical analyses utilized in the
This final chapter discusses the results of the present study in terms of the five specific research questions explored. It relates the findings reported in Chapter IV to the relevant literature on self-concept, the assessment of ESL students, and minority studies as reviewed in Chapter II. It also relates the present findings to current trends in education. Conclusions are drawn as to the implications and generalizability of the results as they relate to students, teachers, and programs. The chapter concludes with some of the possible limitations of the present study and offers recommendations for further research.

A. DISCUSSION OF FINDINGS

This section deals individually with each of the five specific research questions posed regarding the nature of ESL student self-concept and teacher perception of ESL student self-concept, the relationship between the two, and the relationship of both to academic achievement in Reading and in Mathematics. Other significant findings of interest are also discussed as they relate to the present investigation.

1. ESL Self-Concept

   Question One:
   
   What is the self-concept of the ESL student?
Descriptive analyses of responses on the Self-Description Questionnaire-1 (SDQ-1) suggest that, the standard deviation scores for the normative sample were consistently wider than for the ESL students in this study. This finding suggests that the present sample was more homogeneous than the norm. Only the standard deviation scores for Physical Abilities were found to be similar for both. Overall, the pattern of self-concept for this homogeneous group of ESL students appears consistently lower when compared with the normative sample with the exception of ESL self-concept in Mathematics.

However, for both the ESL students involved in this study and the normative sample, the findings suggest a similar pattern of highest self-concepts in Parent Relations and lowest self-concepts in Physical Appearance. Also, the majority of the correlations between ESL self-concept scale scores were significant and all but one of the individual scale scores correlated substantially and significantly with the scale scores to which they were most logically related. In general, this pattern of high and low self-concepts and scale score correlations appear consistent with previous findings by Marsh (1988a) and his colleagues as reviewed in the SDQ research studies in Chapter II. These findings tend to suggest that, although not normed on the present population, the SDQ-1 may also be a valuable instrument to add to a test battery when attempting to assess the ESL student in order to shed light on possible discrepancies in various areas of self-concept.

Although the ESL students in this study appeared to have a somewhat lower self-concept than the students in the normative sample, this discrepancy may be partially explained by previous
studies investigating the relationships among SES, school-average ability, and self-concept (e.g., Marsh, 1988b, 1987a; Marsh & Parker, 1984). According to the background information gathered from informal principals' reports, the majority of the ESL students in the present sample came from at least middle-class schools with at least average or better school-average academic performance. Marsh's (1987a) BFLPE model postulates that students in higher SES/ability schools may have a lower self-concept, despite higher academic achievement, than students in lower SES/ability schools because they tend to make relativistic comparisons to other students within their particular school and setting. The present finding also appears consistent with the lower self-concepts suggested by the literature for other segregated and 'minority' groups within the umbrella of special education.

The present results may have implications as to the value of service delivery and program model (e.g., mainstreaming and integration versus the use of separate or pull-out programs) and their respective effects on student self-concept, particularly in academic areas but also in nonacademic areas. At present, the implications of various specific program models have not been fully explored in the research. Investigations appear only to have created more questions than answers. The issues regarding how best to teach the ESL student, as discussed in the literature review, continues to leave much room for speculation. However, recent surveys and evaluations (Collier, 1989; Cummins, 1984; Lambert, 1981), based on language proficiency and its relation to academic achievement, theory, and research have tended to support
integrated and bilingual settings which may also leave room for
the development of cultural identity in two languages.

Not surprisingly, the higher mean self-concept score observed
for the ESL students in Mathematics, coupled with a relatively
lower mean self-concept score in Reading, appears reversed
compared to the normative group. This finding seems to be
consistent with the psychoeducational assessment literature (Lynn,
Pagliari, & Chan, 1988; Tam, 1990) indicating a profile of
nonverbal or visual-spatial strengths for Orientals compared to
their verbal abilities and compared to the general population.
Also, according to the literature (Cummins, 1984), patterns of
achievement, particularly the attainment of grade level norms,
appear faster in math than for language/content areas for Oriental
immigrants. Although mathematical aptitude may often require
verbal ability, the ESL students in this study may have used a
definition of mathematics as computational (a strength) rather
than word-problem oriented (a challenge).

The Internal/External frame of reference model proposed by
Marsh (Marsh, 1984, 1986d) and others may help to explain the
consistently higher mathematics self-concept observed for the ESL
student compared to both the normative sample and the ESL
student's own self-concepts in Reading and General-School areas.
It may also help to explain why Math and Reading self-concepts are
reversed for the ESL student compared to the normative sample.
(i.e., "I am better at math compared to reading and other school
subjects and I am also better at math than other kids. But, I am
having a really hard time with my reading compared to my math, and
the other kids are much better at reading than I am. Therefore, I
will rate my math self-concept as very high and my reading and other school subjects as very low)."

Furthermore, the literature on language proficiency, age on arrival, and length of residence (e.g., Collier, 1989; Cummins, 1984) indicates that the ESL student may require, on the average, three to seven years or more to reach grade norms when compared to native speakers. Although beyond the scope of the present study, these variables may also have implications for the ESL student's self-concept, particularly in specific academic areas such as language arts, in which the student may feel less comfortable and proficient compared to native speakers. Again, lowered perceptions of language proficiency may help to lower the student's specific academic self-concept. Longitudinal studies might help to sort out if, indeed, the relationship between language proficiency and self-concept changes over time such that increased proficiency results in higher language/verbal/reading self-concepts.

2. **Teacher Perception of ESL Self-Concept**

   **Question Two:**

   What is the teacher perception of that ESL student's self-concept?

   In general, the mean scale score responses for teacher ratings of student self-concept appeared higher and utilized a wider standard deviation than those for the ESL students on the SDQ-1. Compared to the normative sample, however, teacher mean scale score ratings appeared lower and more in line with the ESL
student's self-perceptions than with those for the normative sample. These observations suggest that, while teachers may perceive the ESL student's self-concepts to be somewhat higher than they really are, they do, indeed, perceive subtle differences in ESL self-concepts compared to those of the wider population, and that these differences are more consistent with the ESL student's own self-perceptions than with those of the normative or general population.

Also consistent with this explanation is the present finding that t-test comparisons indicated only two significant differences between teacher and student mean scale score responses. Teachers rated student self-concepts in Parent Relations to be significantly lower compared to the ESL student's own ratings and they perceived student self-concepts in Physical Appearance to be significantly higher compared to the ESL student's self-ratings. That is, the teachers appeared to be more positive about the student's Physical Appearance while the students appeared to be more positive about their Parent Relations than the teachers.

Similar to the SDQ studies reviewed (Marsh, 1988a), correlational comparisons in the present study found no significant relationships between student and teacher agreement in both of these areas. The present findings, therefore, appear consistent with previously established patterns of self-other agreement/differences. According to Marsh and others (e.g., Marsh, 1988a; Marsh, Smith, & Barnes, 1983, 1984) self-concepts evaluations by teachers may be difficult in both of these areas. For Parent Relations, teachers may have little or no direct information upon which to base their judgements. In fact,
teachers in this study pointed out their concerns and discomfort to the present researcher when asked to answer the SDQ-1 questions about the student's Parent Relations as they felt this was an area with which they were least familiar.

Similarly, self-concepts in the area of Physical Appearance appears to be a difficult area for both teachers and peers to evaluate. Marsh (1988a) has hypothesized that, although teachers tend to use more observable and objective criteria upon which to base their evaluations, the formulation of preadolescent self-concept in Physical Appearance may be more idiosyncratic and complex than the Internal-External weighting process he proposed (Marsh, 1986a) to explain how preadolescents arrive at their own particular self-concepts in other areas. The present results tend to support the pattern reported in previous studies (e.g., Marsh, 1988a) for both students and teachers.

Comparison of score ranges between the ESL student and teacher perception ratings indicates that, for scores in Physical Appearance, Reading, and General-Self, teachers started rating ESL self-concepts higher than the ESL students rated themselves. On all other scales (Physical Abilities, Peer Relations, Parent Relations, Mathematics, General-School, Total Nonacademic, and Total Academic and Total-Self), teachers appeared to utilize a wider range of scores in order to evaluate their perceptions of ESL student self-concepts. Comparison of score ranges and standard deviations for student ratings and teacher perceptions, suggest that, in general, teachers tended to perceive more differences between ESL students. Again, this pattern of teacher ratings may be explained by suppositions in the literature (Marsh,
1986d; 1988a) that inferred ratings by significant others may be linked to more observable and quantifiable data such as ability in physical education and academic achievement scores on math tests. That is to say, the processes teachers use to arrive at their perceptions may be different than the processes students use to arrive at their own self-perceptions.

For teacher perceptions, self-concept correlations were very strong between academic areas (Reading, Mathematics, and General-School). This finding makes sense and is consistent with the previous research (Marsh, 1988a), particularly since these academic subjects are the areas where teachers have the most opportunity to observe, compare, and evaluate their students.

3. The ESL Self-Concept and Teacher Perception Relationship

Question Three:

What is the relationship between the ESL student's self-concept and teacher perceptions of that student's self-concept; and to what extent do they agree?

In general, based on mean scale score comparisons and t-tests of significant differences between means, the present investigation found that teacher perception of ESL student self-concept was similar, albeit somewhat higher, to the ESL student's self-perceptions with two exceptions. The mean self-concept rating for Physical Appearance was significantly lower for the ESL student, while the self-concept rating for Parent Relations was significantly lower for the teachers. As mentioned, these
findings concur with previous studies utilizing the SDQ-1 (e.g., Marsh, 1986d, 1988a; Marsh, Smith, & Barnes, 1983, 1984) and with the related SDQ literature as reviewed in Chapter II.

Interestingly, a comparison of mean scale scores and standard deviation scores in Mathematics self-concept indicates that the teacher perceptions were almost exactly the same as the ESL student's own self-perceptions. This finding may suggest that, at least for self-concepts in Mathematics, students and teachers may be utilizing a similar and more observable, quantifiable process. Also, compared to the normative sample, both the ESL student's mean scores in Mathematics and the teacher perception mean scores were higher, and the standard deviations lower, than the normative group. This finding suggests that the teachers also perceive the ESL students to be more homogeneous, particularly in the area of Mathematics self-concept. However, unlike the near zero correlation found for the ESL students, for teachers, self-concept scores in Reading and Mathematics correlate with each other. This pattern of differences is consistent with previous SDQ research (Marsh, 1988a) and tends to support the suggestion (Marsh, 1986d, 1988a) that students and teachers are using different processes in arriving at their individual self-concept perceptions and that the teachers, in particular, may be using more external, observable, and quantifiable criteria to formulate their perception ratings.

Possible explanations for the significant discrepancies between student and teacher self-concept ratings, especially in terms of Reading and Mathematics, may be attributed to the differences in the processes used by students and teachers, and, perhaps, even by individuals within each group, to arrive at their
self-concept ratings. The frame of reference models proposed by Marsh and his colleagues (Marsh, 1986d, 1987a; Marsh & Parker, 1984) attempt to explain the differences in processes that might be used by students and significant others such as teachers. According to the Internal-External frame of reference model (Marsh, 1986d), external raters, in particular, may tend to use more external, observable, and quantifiable information upon which to base their evaluations. Examples of external criteria might be test scores and comparisons with other students or with past experience. This is the same process used to explain the BFLPE (Marsh, 1987a; Marsh & Parker, 1984). Self-raters, on the other hand, tend to make both internal and external comparisons and individually weight their self-concept responses based on more idiosyncratic criteria. According to this internal process, students compare their self-perceived ability in one area with their self-perceived ability in another area and use this internal and relativistic impression as a second basis for their self-concept ratings in each of the two areas. The I/E model also predicts the negative direct effect of achievement in one area (e.g., math) on self-concept in another area (e.g., reading). For example, a high Math self-concept will be more likely when math skills are good (the external comparison) and when math skills are better than reading skills (the internal comparison). Thus, it is the difference between math and reading skills which is predictive of Math self-concept. Whereas high reading skills may actually detract from a high Math self-concept, low reading skills may enhance high Math self-concept. Such an explanation might also be
the case for the present sample of ESL students, both in terms of their higher Math and their lower Reading self-concepts.

Although there appears to be a large discrepancy between Reading and Mathematics self-concepts for both the ESL student and teacher perceptions ratings, further t-tests comparisons between means for the ESL student may have helped to establish a level of significant differences. Both the students and their teachers rated self-concepts in Reading and Mathematics areas similarly but differently compared to the normative group. For example, the ESL students rated self-concept in Math as the second highest and self-concept in Reading as the second lowest of all self-concept ratings. Similarly, the teachers rated ESL Math self-concept as the highest and ESL Reading self-concept as the lowest of all the self-concept areas measured. The normative group, on the other hand, rated reading self-concept higher than math self-concept.

At first glance, it may appear as if the I/E model may not adequately explain differences in the present sample compared to previous self-other studies since both the ESL student and the teacher perceptions seem very similar for both Reading and Math self-concepts. However, the lack of a significant correlation between self-other agreement for the present sample in the area of Reading self-concept, the distinct differences in math and reading academic achievement scores, as well as the restricted distribution of these scores, tends to suggest that, for the present ESL sample, the criteria for establishing external comparisons and the homogeneity for the present ESL sample may be more definitive than for the general population. Furthermore, the present ESL sample represents primarily Oriental or Asian
'minority' group membership which may also increase the sample's homogeneity.

Pearson correlations explored the relationship between ESL student self-concept and teacher perception of student self-concept in order to examine the degree and direction of this relationship. Overall, correlations between ESL student and teacher perceptions on the SDQ-1 tended to be weaker and fewer in number than correlations among self-concept scores for the ESL student and teacher perception ratings computed separately. This finding might be expected as within measure ratings by the same respondent tend to be higher than comparisons of between measure ratings by different respondents. Also, the difference in overall correlational magnitude between the present study and previous SDQ self-other investigations may be explained by the different statistical procedures applied. In much of the SDQ research, Marsh and his colleagues (Marsh, 1988a) used 'adjusted' scores, whereby both the student and teacher self-concept ratings were set with similar means and standard deviations for comparisons. Wylie (1989) notes that the use of 'adjusted' scores tends to increase the level of correlational significance between scores which may help to explain the greater correlational magnitude reported in many of the previous SDQ self-other studies compared to the present investigation. Overall, however, the patterns of correlations between the ESL student self-concept ratings and the teacher perceptions of student self-concept, appear consistent with previous research (Marsh, 1988a) and lend support to the validity and reliability of the SDQ-1 as well as the multidimensional theoretical structure upon which it is based.
In general, the lack of significant correlations between student and teacher, particularly in matching academic self-concept areas, appear, at first, to contradict Marsh's (1986d) prediction that student-teacher agreement will be strongest in academic areas, the area most familiar to teachers. For the ESL students and teachers in this present sample, this seems to be the case. However, the pattern of correlations, compared to the ranking of highest and lowest means for the normative sample, as well as the similar pattern of correlational scores averaged over eight self-other studies (Marsh, 1988a), tends to suggest that, overall, the SDQ does adequately assess ESL self-concept and that overall, student-teacher agreement is consistent, except for more language-related or language-mediated areas such as Reading and General-School or all school subjects.

Perhaps for this sample of ESL students and their teachers, variables such as lack of proficiency with English, as well as cultural variables, may mediate the processes by which students and teachers arrive at their self-concept perceptions in even a more dramatic way than first proposed by Marsh and his colleagues (Marsh, 1986d; 1987a). At least for self-concepts in Reading and General-School, it may be be suggested that the students and teachers in the present study used different processes to formulate their evaluations. The research on second language acquisition, age on arrival, length of residence, and the time it takes non-native speakers to reach grade norms (e.g., Collier, 1989; Cummins, 1984) may help to explain why the ESL students in this study rated their language-related self-concepts lower than the children in the normative sample and why, in keeping with the
I/E model, they may have rated their own abilities and, subsequently, their self-concepts in these areas relatively lower than one might anticipate from external criteria alone.

Also, in contrast to the very strong correlations Marsh and his colleagues (Marsh, 1988b) observed in self-other agreement for university students, present study indicated a lack of correlation in academic areas, particularly in Reading and in General-School self-concept areas. The results of the present study may be explained, in part, by the younger age of the current sample of preadolescent students who may not, as yet, know themselves as well as the older university students knew themselves.

Furthermore, since the ESL students and their teachers agreed very strongly in several important and specific nonacademic areas (i.e., Physical Abilities, Peer Relations and Total Nonacademic self-concepts), all of which may be based on external and observable criteria, it appears that teachers may be better at evaluating the self-concepts of their ESL students in these areas than one might at first expect. Although the ESL students and their teachers in the present study appear to agree in several important nonacademic self-concept areas, a comparison of the current findings with previous SDQ self-other research (Marsh, 1988a) may also suggest that the ESL teachers in the present study may not know their ESL students as well as other teachers know their students. This explanation may be particularly indicated in terms of academic self-concepts (i.e., Reading, General-School, and Total Academic self-concepts) where the present ESL student-teacher agreement was generally low and nonsignificant. A
possible exception, however, may be found in the area of Mathematics self-concept where ESL student and teacher perception ratings correlated significantly. Interestingly, Mathematics is an area which may also be termed more observable and quantifiable than either Reading or General-School.

Mary Ashworth (1988), in her national survey of ESL difficulties, along with Lambert (1975, 1981) indicate that of all the problems facing the ESL student perhaps the most significant may be in nonacademic areas due to possible conflicts between home and school. Similarly, Wong Fillmore (1983) suggests that differences in home, culture, and socialization may effect students' academic achievement and motivation to succeed in school. The results of the present study tend to suggest that this particular group of teachers do, in fact, appear to understand the ESL student's strengths and challenges in at least in some nonacademic areas and that the direction of their shared understanding is substantially related and in a similar direction to the ESL student's self-perceptions. Further research will be needed to explore the depth of ESL teacher understanding and if, indeed, these nonacademic areas are problematic for the ESL student and whether interventions, and of what sort, may be beneficial to enhance student self-concept in these particular areas. At this point, however, the SDQ-1 does appear to be a beneficial tool for assessing nonacademic as well as academic self-concepts for this group of children.

The large number of negative correlations between ESL student and teacher perceptions in various areas of self-concept suggest that students and teachers are not using the same evaluation
processes to formulate their self-concept perceptions and/or they are not using them in the same way. This finding also supports the growing need for further research, such as local normative evaluations and additional statistical procedures (e.g., factor analyses) for both the student and the teacher data, as well as further correlational and, possibly, predictive evaluations.

4. **ESL Self-Concept and Academic Achievement**

   Question Four:
   What is the relationship between the ESL student's self-concept and the student's academic achievement in reading and in mathematics; and to what extent do they agree?

   Correlations between ESL student self-concept and academic achievement in Reading and in Mathematics were all nonsignificant in academic self-concept areas and mostly negative in nonacademic areas. A positive but near zero correlation was found between student self-concept in Reading and Reading achievement. Similarly, positive but near zero correlations were found between Reading achievement scores and ESL self-concepts in other academic areas, including General-School, Mathematics, and total Academic self-concept.

   The correlations between ESL student self-concept in Mathematics and Mathematics academic achievement was nonsignificant and very weak. However, correlations between Math achievement scores and the other academic areas (i.e., Reading General-School, and Total Academic self-concepts) were all nonsignificant. Although these findings were neither significant
nor causal, they may indicate the need for further research to
examine whether or not, for ESL students, math is perceived as
unrelated to other academic school subjects and whether high math
scores may negatively affect self-concepts in other academic areas
which is consistent with Marsh's (1986d) Internal-External frame
of reference model.

In general, the present findings are different from the
literature (Hansford & Hattie, 1982; Marsh, 1988a; Wylie, 1979,
1989) which suggests that some of the facets of self-concept, that
is the ones associated with academics, should be at least
moderately correlated with academic achievement. However, the
current findings may add support for the I/E frame of reference
model (Marsh, 1986d) and the BFLPE (Marsh, 1987a; Marsh & Parker,
1984) in that the ESL students in this study, unlike their
teachers, did not seem to be using the same processes to formulate
their self-concepts and that, clearly, the ESL students' self-
concepts were not formulated solely in relation to external
criteria or marks.

The present lack of significant correlations between academic
achievement and matching academic self-concepts may be more
complex as many of the students in this study never received an
actual 'grade' per se on their report card. Furthermore, the lack
of significant correlations between academic self-concepts and
academic achievement calls into question the implications of
anecdotal report cards and positively-worded comments. Although
often very encouraging, this type of reporting may not adequately
convey to the student where, in fact, he or she stands relative to
his or her other academic skills and in relation to other students
in the immediate environment or to a larger normative group. Reporting about students is a nebulous area in education and is becoming more so for all students, teachers, and parents with the impact of the Year 2000 and continuous progress. If external criteria are an important part of self-concept formation, for both students and teachers, it may be more important to clarify grades and scores than current trends suggest.

Also, according to the Internal-External frame of reference model (Marsh, 1986d) and the BFLPE (Marsh, 1987a), it is uncertain as to with whom the ESL student may be comparing him or her self. It may be suggested that in schools where school-average ability/achievement is rated as average or better, such as the majority of schools from which the present sample of ESL students were drawn, the BFLPE may be very dramatic, particularly in segregated and pull-out classes. For example, the ESL student's math abilities may seem very high in comparison to other students. On the other hand, the ESL student's reading abilities may appear either 1) very poor in relation to the other students in mainstream classes, or 2) relatively better than other ESL students in segregated classes, or 3) relatively better than other ESL students in school populations where the percentage of ESL is also very high. Further research is needed to explore the interplay of these variables (e.g., individual student ability/achievement, type of class setting, and school population demographics) and their relation to the formation of ESL student self-concepts.

The nonsignificant correlations between academic self-concepts and academic achievement scores may also identify a
weakness in the present study which attempted to quantify student marks and or teacher ratings of student achievement. In addition, it suggests the need for further research which might utilize standardized achievement tests for comparisons.

5. Teacher Perception and Academic Achievement

Question Five:
What is the relationship between teacher perception of the ESL student's self-concept and the student's academic achievement in reading and in mathematics; and to what extent do they agree?

Positive, substantial, and significant correlations were found between teacher perception of ESL self-concept and academic achievement scores in both Reading and Mathematics. In particular, strong correlations were found between academic achievement ratings in Reading and in Mathematics and teacher perceptions of ESL student self-concept in matching academic areas and Total Academic self-concept. Substantial correlations were also found between Reading and Math achievement scores and teacher ratings of student self-concepts in General-School, Total-Self, and General-Self. Significant correlations were observed between Math achievement scores and teacher ratings of ESL student Reading self-concept and, to a lesser extent, between Reading achievement scores and teacher ratings of ESL student Mathematics self-concept. Significant but low correlations were found between Math achievement scores and teacher ratings of Physical Abilities and between Reading achievement scores and teacher perceptions in Peer
Relations and Parent Relations. Similarly, both Reading and Math achievement scores correlated significantly but moderately low with teacher ratings of the ESL student's Total Nonacademic self-concept.

Overall, the significant findings between teacher perception ratings and academic achievement appear in contrast to the generally low and nonsignificant correlations observed between the ESL student self-ratings and academic achievement scores. The present results also tend to suggest that the ESL teachers in this study, like teachers in the previous investigations (Marsh, 1986d, 1988a), may rely more on external and observable criteria, such as grades and academic ratings, in order to base their evaluations of student self-perceived ability and subsequent self-concept (an external comparison). The students themselves, on the other hand, may rely on different criteria, perhaps internal or external, or a weighted combination of both.

Interestingly, the substantial correlations between the academic achievement scores and teacher perception ratings in General-Self and Total-Self areas may suggest that the process teachers use to evaluate more global aspects of student's self-concept may also be linked, to a large extent, on external, observable, and academic data. If not just simply a 'halo effect', it appears that the teachers in the present study, unlike the ESL students, may link positive academic achievement to positive self-concepts in other areas. The correlations between academic achievement and teacher perception of ESL student self-concepts in nonacademic areas, such as Peer Relations and Parent Relations, may also suggest that the ESL teachers, unlike the
students themselves, relate student performance, academic abilities, and skills with the student's personal relationships to significant others, such as parents and friends. The extent to which these significant others may actually be influential in helping to formulate ESL student self-concept and academic skills remains to be explored.

Overall, the high correlations between academic achievement scores and teacher perception of academic self-concept ratings, are not surprising as it was the teachers themselves who issued the grades, rated the ESL student's abilities and skills, and probably made comparisons to other students within their frame of reference and experience. In addition, the majority of the suburban ESL teachers chose to collaborate with the homeroom teachers who taught the ESL students in subject areas other than language arts (e.g., Math). The collaboration between teachers may have confirmed, supported, and strengthened the teacher ratings of academic achievement in subject areas in which they were less certain. Furthermore, this possible reinforcement and confirmation of a student's academic skills may also have strengthen the correlational relationship between the teacher's ratings of academic achievement and perceived self-concept for that ESL student.

6. Other Significant Findings
6.a. Sex Differences

T-test comparisons revealed sex differences for both the ESL student self-ratings and the teacher perceptions of ESL student self-concepts in terms of Physical Abilities and Reading. For
both the student and teacher ratings, self-concepts in Physical Abilities were found to be higher for boys than for girls, whereas self-concepts in Reading were found to be higher for girls than for boys. These findings are consistent with the sex stereotypes observed in the literature (e.g., Meece et al., 1982) and also with the findings reviewed in the previous SDQ research (e.g., Marsh, 1985b; Marsh, Relich, & Smith, 1983). The present results lend support for the differentiation of self-concept norms and separate norm tables for males and females as proposed in the SDQ-1 manual (Marsh, 1988a).

6.b. District Differences

T-test comparisons revealed district differences between the urban and suburban schools in terms of Mathematics self-concept as perceived by both the ESL student and inferred teacher ratings. Overall, the mean self-concept rating for Mathematics was higher for the student and teacher ratings in the suburban district schools than in the urban district schools.

The present findings may be explained by differences inherent in program and service delivery models (e.g., full-time ESL classes or integrated settings with pull-out programs for ESL or mathematics), teaching methods and styles, as well as possible differences in the background characteristics of the students and teachers and the particular philosophical, academic, and social context of each district. Also, unlike the teachers in the urban district, the suburban teachers collaborated on their responses to some of the items on the SDQ-1, including questions concerning Mathematics self-concept.
It is also uncertain whether or not the suburban students were more cognizant of their math achievement than the urban students which might have influenced the internal and external comparison processes for both teachers and students. Furthermore, the numbers of students and teachers were not equal in both districts which may also have influenced the present findings. Further research is needed in order to determine what factors were operating in each district and which contributed to the present differences in results.

However, since both the student and teacher ratings appear to be in the same direction, it would appear that both of these groups tended to use a similar process to arrive at their self-concept evaluations. Furthermore, if inferred raters tend to use more external comparisons (Marsh, 1986d, 1988a), one might assume that, at least for Math self-concept in the suburban district, both the students and teachers may have, for some reason, used background characteristics in a more objective, observable, and external process than the students and teachers in the urban district.

The data collected from the suburban schools appears to reflect a higher proportion of teacher respondents to students (16 teachers to 23 students) compared to the urban schools (5 teachers to 34 students). This difference may be due to district differences in policy and service delivery which may, in addition, influence how well teachers feel they know their ESL students in diverse or multidimensional areas. However, only the actual ESL teachers were used in the statistical computations which may not adequately reflect participation from the other teacher
collaborators who, although not officially counted as ESL teachers per se, may have helped to respond to some of the items. These differences in procedures, in addition to cultural differences based on ethnicity, length of time in Canada, and age on arrival, as well as differences in distinct program policies, may interact alone or in combination, to influence the present findings and, perhaps, obscure the results and interpretations upon which they are based.

6.c. Birth Place Differences

T-test comparisons found differences in teacher perception ratings for self-concepts in Mathematics, Total Nonacademic, and Total-Self areas between Canadian-born ESL students and all other ESL immigrant students involved in the present study. In all three areas, the mean teacher self-concept ratings were significantly higher for the immigrant students than for the Canadian-born ESL students. These findings may suggest that teachers perceive differences between immigrant students and Canadian-born ESL students.

Possible reasons for these differences may be due to the actual differences in skill levels (e.g., in mathematics) between the two groups of students or a tendency for teachers to overcompensate and, therefore, rate their perceptions higher in nonacademic areas with which they may feel less familiar, particularly in terms of immigrants' social and cultural differences. The Lambert (1975, 1981) research on the development of cultural identity may suggest that, for teacher perceptions in self-concept areas such as Total Nonacademic and Total-Self,
Canadian-born ESL students may appear, as a group, more socially and culturally like other Canadian-born students, whereas immigrant ESL students may be perceived of as more homogeneous and different from the larger reference group.

Also, the large discrepancy between the numbers of Canadian-born students (n=6) and the immigrants, or all others (n=51), represented in the current sample is noteworthy and may have contributed to the significant differences observed between the two groups. Nevertheless, Canadian-born ESL students may have some idiosyncrasies which need to be explored separately. Further research is needed to examine if, indeed, significant differences exist between the ESL students who immigrate to Canada from other countries compared to the ESL students who are born here and how, and to what extent, teachers relate to these differences. Also, comparisons of these two groups to other Canadian-born English as a first language students may also need to be examined.

6.d. Ethnic Differences

T-test comparisons between mean self-concept ratings revealed ethnic group differences between Hong Kong Chinese students and all other students involved in the present study. For student ratings, a significant difference was found in Peer Relations and a similar directional 'trend' was noted in Total Nonacademic self-concept areas, both of which were rated higher by the other ESL students than by the Chinese ESL students from Hong Kong. For teacher perception ratings, significant differences were found in mean scores for Mathematics and Total Academic self-concepts, both
of which were rated higher for the Chinese ESL students from Hong Kong than for the other ESL students in this study.

The pattern of findings for the ESL student perceptions suggests that the level of socialization, acculturation, and assimilation may be different for Hong Kong Chinese students than for other ethnic students. Subsequently, the Hong Kong Chinese students may feel less comfortable and confident, particularly in terms of peer relationships when compared to other ethnic groups.

The pattern of findings for teacher perceptions suggests that Chinese Hong Kong students may be viewed as more able and confident in academic areas, in general, and in terms of Mathematics, in particular. This finding is consistent with the literature (Lynn, Pagliari, & Chan, 1988) advocating the visual-spatial strengths observed for Orientals, as well as with surveys (Cummins, 1984) relating higher patterns of academic achievement for Asian-Americans and Chinese immigrants when compared to other minority groups. It may also be questionable whether or not teachers may use some racial stereotyping when formulating their self-concept evaluations. In addition, teachers may have made relative comparisons when formulating self-concept perceptions based on differences between a student's math and reading achievement scores. Also, the majority of the Hong Kong students in this study came from middle to upper-middle class schools which suggests affordability for tutors. Again, the difference in numbers of subjects and the relatively small sample size is problematic and should be considered carefully.

There is need for further research in order to explore ethnic differences, not only in terms of abilities and skills, but also
in terms of socialization and the formation of individual and cultural identity and how these factors relate to and, perhaps, predict specific self-concepts perceptions for both students and teachers.

B. LIMITATIONS OF THE STUDY

Many of the limitations of this study were outlined in the previous discussion and may be summarized as follows:

1. The present study was limited by a relatively small sample size and the variability among its subjects, particularly in terms of ethnic background, level of language proficiency, length of residence in Canada, and age on arrival in Canada. Furthermore, the variation in type of program service delivery offered by two different school districts and possible variations in policies, procedures, and instruction between the two also added to the already large amount of variables inherent in measuring both student and teacher ratings on 11 facets of self-concept. Therefore, the generalizability of results to other ESL students and their teachers may be difficult, and, although beyond the scope of the present study, these variables leave room for further exploration on many levels.

2. As this study was exploratory in nature and used a relatively new instrument which was normed on Australian students, Canadian and/or local norms were unavailable, making comparisons within the Canadian socio-cultural context speculative. Furthermore, the current study did not include a control group matched on variables
such as age and sex with the ESL student sample. Unfortunately, this was not possible for the present study due to the difficulties recruiting students across two districts and considering differences in policies, procedures, and classroom settings.

3. This study was correlational, and although a correlational study can effectively demonstrate relationships among specified variables, causation cannot be determined because the direction of the relationships is unknown. The interpretation of the correlation can also be affected by mediating variables.

4. Measurement issues also limit the interpretation of the results. First, the academic achievement scores were reversed and had to be adjusted in order to parallel the data collection on the SDQ-1. Second, the data was not factored and then compared to the normative sample which would have made comparisons to the normative sample and previous SDQ research studies more meaningful and, perhaps, more consistent. Similarly, comparisons of factor scale scores and 'adjusted' scores between the ESL student and teacher perception ratings may also have revealed additional information about the student-teacher self-concept relationship. Also, additional t-test comparisons, between the mean scale scores for the normative sample and the present sample as well as between the reading and mathematics self-concept scale scores for the present ESL sample, might have revealed further significant comparisons.
C. RECOMMENDATIONS FOR FURTHER RESEARCH

Due to the nature of exploratory research, this study may have produced more questions than it answered. Some of the recommendations for further research that arise are summarized as follows:

1. Canadian and local normative studies might shed more light on the generalizability of the Self-Description Questionnaire-1 to the general Canadian population and to other ethnic minority groups that might be included in the sample. Furthermore, they might point out subtle differences across cultures that are not as yet apparent from the results of the present findings.

2. A similar study might be replicated for use with 'regular' students and their teachers in a variety of program settings in order to assess teacher perceptions of 'regular' students self-concepts and then compare those results with other groups of students as a basis for normative comparisons.

3. A similar study might be replicated in which other significant others, such as parents and peers, evaluate their perceptions of ESL self-concept. These ratings might also be compared to the teachers' self-concept responses to investigate similarities and differences in student-other agreement which, in turn, might also lead to further understanding of the ESL student.

4. Significant others might be asked to rate the ESL student, not only as they think the student thinks of him or herself (i.e., an inferred rating), but also how the respondents believe the student should think about him or her self (i.e., an expected
rating). Similarly, students might be asked to rate themselves as they feel they are and as they think others perceive them to be. Such investigations might uncover similarities and discrepancies in actual and perceived self-concept ratings which might further enhance our understanding of how self-concepts are formed, perceived, and projected for both self-raters and significant others.

5. Students and teachers might be asked to share their responses with each other to learn more about each others' formulations, perceptions, and projections on self-concept issues. In turn, such a sharing might lead to the surfacing of unaddressed concerns which might act as a focus for re-evaluation, possible counselling issues, and/or programming needs particular to the ESL student.

6. The self-concepts of high and low achievers might be compared, along with teacher perceptions for these groups, in order to further investigate the interplay of achievement and self-concept formation.

7. Given the significant mean differences between male and female self-concept responses found in the present study (i.e., higher self-concepts in Reading for females and higher self-concepts in Physical Ability for males), a future study might be conducted to investigate sex differences and ESL self-concept formation for both the ESL students and the teacher perception ratings. In general, the present results appear consistent with the sex stereotypes as reviewed in the literature (Meece et al., 1982). Unfortunately, the relatively small sample size for the present study made further exploration of ESL sex differences difficult at this time.
8. Student and teacher perceptions might be compared in high and low SES/ability schools in order to shed light on the relationship between ESL self-concept and school SES/ability.

9. Attributional factors might be compared with self-concept, academic achievement, and perceptions by others. Comparisons between and among these factors might enhance our understanding of how these factors relate to each other, and, to what extent they each relate and/or influence ESL student self-concept.

10. A study might look at the differences and effects of ratings arrived at through collaboration with others compared to singular ratings of student self-concept when comparing ratings by significant others. Such a study might help to address which method or style of response is a more accurate indicator of actual ESL student self-concept.

11. Further statistical analyses of the present data might add information on the differences between raw, factored, and 'adjusted' scores for both the ESL students and their teachers and their relationship to both the present and normative sample. Such a comparison might help to evaluate which procedure yields more significant and useful results.

12. Predictive statistics such as multiple regression analyses might add information as to some of the causal determinants between ESL self-concept, teacher perception, and academic achievement.

13. Also, some of the additional variables present in this study might be used in subsequent and future studies with more 'controlled' groups in order to help sort out some of the factors which might interplay with self-concept, inferred ratings, and
academic achievement. The nature of the 'control' group, matched on variables particular to the sample, would then depend on the research questions posed. Some of the factors which have been identified in the literature on ESL student assessment as critical to language proficiency (Collier, 1989; Cummins, 1984) might include: age on arrival, length of residence in the host country, level of prior L1 literacy development, and the influence of bilingual programs. Unfortunately, many of these factors were difficult to control and investigate in the present study, due, for example, to difficulties inherent in recruiting subjects, the involvement of two districts with different policies, procedures, and classroom settings, and the relatively small sample size.

14. Longitudinal studies are needed to sort out if, indeed, the relationship between language proficiency and self-concept changes over time, such that increased English proficiency results in higher language, verbal, and reading self-concepts as the ESL students reach the grade norms of their native-speaking peers. For example, comparisons with mathematics self-concepts and other academic areas, as well as with teacher perceptions, might examine possible changes with time, exposure, skill acquisition, and acculturation.

15. As questions as to the most effective program and model of service delivery are paramount to educational practise, a study might be conducted in order to investigate which setting, philosophy, and practise provides the ESL student with the greatest support. A self-concept study might be of value as a measure of program success.
16. There is also a need for research into what actually happens when students move from one academic setting to another where the average ability level is quite different. There is also a need to explore individual characteristics that may determine how students react to this potentially stressful transition.

17. The use of standardized and objective tests and their relationship to ESL self-concept and teacher perception might be compared to the results obtained by grades. Such comparisons might help to determine the similarities and differences between various academic measures and their relationship to ESL self-concept.

18. There appears to be a need for research in terms of the formation of physical appearance self-concept and how it is reported as teacher-student agreement in this area is one of the lowest for both the present study and the previous SDQ research studies (Marsh, 1988a).

19. Intervention strategies might be applied in a test-retest situation to evaluate their effectiveness in changing a student's self-concept.

20. A study might compare ESL self-concepts and teacher perceptions in situations where different methods of reporting academic achievement are used (e.g., grades, tests and/or anecdotal reports) to investigate the self-concept and academic achievement relationship given different sources of academic information.

21. There appears to be a need for both quantitative and qualitative research regarding ESL self-concept and perceptions made by others and how these relate to all areas (i.e., academic
and nonacademic) in order to clarify further the interplay of intrinsic and extrinsic factors in the formation and change of self-concept.


APPENDIX A: LETTER TO TEACHERS AND PRINCIPALS
REQUEST FOR SUBJECT PARTICIPATION - TEACHER FORM

Dear Teacher:

Your school has been requested to take part in a M.A. thesis project to examine the relationship among the following parameters:

1. ESL student's self-concept;
2. Teacher perceptions of that student's self-concept; and
3. The child's school performance or report card grades.

As yet, little information is available in the area of self-concept and Canadian ethnic minorities. We hope that this study may further our understanding of minority group self-concept and the dynamics of this professional interaction between teacher and student.

In this study, we will be looking at ESL students who meet the following criteria for selection:

1. Chinese immigrants, preferably of Hong Kong origin.
2. Resident in Canada for approximately 5 years.
3. Presently in grades 5 or 6.
4. Aged 10 - 12 years; approximately 11 years old.
5. Presently mainstreamed into a regular classroom.

As some of your present students meet these criteria, we are asking for your participation in this research project - to contribute your valuable perceptions regarding your student's self-concepts.

The same self-concept questionnaires will be completed separately by both the student and his/her teacher. This questionnaire will take the teacher approximately 10 - 15 minutes to complete per child. Finished questionnaires will then be given a code to maintain the anonymity and confidentiality of all concerned. Although you have the right to refuse to participate and you may withdraw from the study at any time, your involvement is crucial to the success of this project. On conclusion of the study, a complete summary will be given to each participating teacher which will highlight the research findings.

If you are willing to help in this request - and we hope that you will be - please let your principal know so that we may schedule a meeting. And, if you have any further questions, please don't hesitate to contact the researchers at UBC (226-5351).

Again, thank you for your cooperation.

Sincerely,

Barbara Silvér
Graduate Student
M.A. Program
School Psychology

D. Whittaker, Ph.D.
Associate Professor
Department of Educational Psychology and Special Education
REQUEST FOR ADMINISTRATIVE AND SCHOOL TIME - SCHOOL PRINCIPAL FORM

Dear Principal:

Your school has been requested to take part in a M.A. thesis project to examine the relationship among the following parameters:

1. ESL student's self-concept;
2. Teacher perceptions of that student's self-concept; and
3. The child's school performance or report card grades.

As yet, little information is available in the area of self-concept and Canadian ethnic minorities. We hope that this study may further our understanding of minority group self-concept and the dynamics of this professional interaction between teacher and student.

In order to properly select a representative sample of students, some secretarial time will be needed to identify possible ESL students from their cumulative school records. Criteria for student selection include the following:

1. Chinese immigrants, preferably of Hong Kong origin.
2. Resident in Canada for approximately 5 years.
3. Presently in grades 5 or 6.
4. Aged 10 - 12 years; approximately 11 years old.
5. Presently mainstreamed into a regular classroom.

Should some of your present students indeed meet these criteria, we will also be asking for the participation of their respective teachers, to contribute their valuable perceptions regarding their student's self-concepts.

The same self-concept questionnaires will be completed separately by both the student and his/her teacher. The questionnaire will take the students approximately 15 - 20 minutes to complete; teachers may complete the same forms in approximately 10 - 15 minutes per child. The student data is to be collected once only at your school, in a group testing of all consenting ESL students so identified. On the same day, the researcher will also meet with the respective teachers to distribute the teacher questionnaires, to administer specific instructions as to their completion, and to answer any questions concerning the study. Teacher questionnaires will be picked up at a scheduled time the following week. It is hoped that all the data may be collected at a convenient time for your school in February 1990, to be completed by early March 1990.

All finished questionnaires will be given a code to maintain anonymity and confidentiality of all concerned. Although you have the right to refuse to participate and you may withdraw from the study at any time, your willingness to allocate your time and energy is crucial to the success of this project. On conclusion of the study, a complete summary, highlighting the research findings, will be made available to the participating teachers and to the parents of the ESL students.

If you have any questions, please don't hesitate to contact the researchers at UBC (228-5351). We most greatly appreciate your cooperation and we hope to be in touch with you soon to arrange further details. Thank you.

Sincerely,

Barbara Silver
Graduate Student
M.A. Program
School Psychology

D. Whittaker, Ph.D.
Associate Professor
Department of Educational Psychology and Special Education
APPENDIX B: PARENTAL/GUARDIAN AND STUDENT CONSENT FORMS
Dear Parent/Guardian:

Your child has been selected to take part in a M.A. thesis project to understand more about the self-concept of children for whom English is a second language. These results will be compared to the teacher's rating of your child's self-concept and to the child's school grades.

The questionnaire your child will complete takes approximately 15-20 minutes. Your child's school has given us permission for this to be done at school. I will send the results to UBC. Your child's name and school grades will be given a code number so that nobody will know to whom they belong. Only the UBC researchers will know the results so they will not affect how your child is graded in school.

Most children enjoy answering the questions and may learn more about themselves. Both you and your child have the right to refuse to participate and, of course, you may withdraw from the study at any time without affecting your child's class standing. However, your help is important to us.

Please sign and complete the attached consent form and return it to your child's school as soon as possible. A summary of the research findings will be available to you on completion of the study. If you have any questions, please contact the researchers at UBC (228-5351).

Thank you very much for your cooperation.

Sincerely,

Barbara Silver
Graduate Student
M.A. Program School Psychology

D. Whittaker, PhD.
Associate Professor
University of British Columbia
Department of Educational Psychology and Special Education
228-5351
ESL Self-Concept: Its Relation to Teacher Perception and Academic Achievement

REQUEST FOR SUBJECT PARTICIPATION - PARENT/GUARDIAN CONSENT

I DO / DO NOT give permission for my child ____________________________ (name of child)
(circle one) to participate in the M.A. thesis project and have his/her school grades released to the UBC researchers.

__________________________________________
Signature of Parent or Guardian
親愛的家長/監護人：

子女已被挑選入一項博士論文研究，此項研究目的在加深認識英語作為第二語言的學童之自我形象。學童的自我評價將比較他們的校內成績及老師對他們的自我形象的評價。

子女必須在課後作答一份問卷，需時約十分鐘，研究結果將送交年裴大學。子女的姓名及學校將用代號作記錄，因為只有研究者有權查看結果，故此不會影響貴子女的校內成績。

因為問卷可加深學童的自我了解，故此大部份學童對這問卷都非常感興趣，你和子女都有權拒絕參加，亦可隨時退出研究，而不會影響貴子女的校內成績。當然你的參與對此研究極為重要。

請讓子女親自向老師，查詢你子女之學校研究員電話，你有權獲取一份研究結果的摘要，如有任何問題，請與研究員聯絡（228-5351）。

[大學名稱] 註冊研究員

[研究員名字]
ESL Self-Concept: Its Relation to Teacher Perception and Academic Achievement

REQUEST FOR SUBJECT PARTICIPATION - STUDENT FORM

(to accompany the student questionnaire and to be read to each student prior to testing)

Dear Student:

As you may know by now, you have been selected to take part in a M.A. thesis project to understand more about children's self-concept or how you feel about yourself. When we finish, I will send these questionnaires to UBC. Then I will give your name a code number so nobody will know it was you - we only want to see how children answer these questions, okay?

I want you to remember that these questions have nothing to do with your schoolwork and will not count for your grades on your report card. The questionnaire takes about 15-20 minutes to answer. Most children enjoy doing it and may learn more about themselves. I'm sure you will too. Before we start, I want you to know that you don't have to do this. You may refuse to participate or withdraw at any time without affecting your class standing. However, your help is important to us. I would appreciate it if you would agree to work on this questionnaire with me. When you sign and finish the questionnaire, we will know that you agree to help us. Okay?

Thank you very much for your help.

Sincerely,

Barbara Silver
Graduate Student
M.A. Program School Psychology

D. Whittaker, PhD.
Associate Professor
Department of Educational Psychology and Special Education
228-5351
APPENDIX C: SCHOOL DEMOGRAPHIC QUESTIONNAIRE
Part 1: SCHOOL BACKGROUND INFORMATION  (principal's verbal report)

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<thead>
<tr>
<th>School</th>
<th>Telephone</th>
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<tr>
<th>Principal</th>
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<th># students tested</th>
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Total %age of ESL Students in School

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<th>School Minority Groups</th>
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<tr>
<th>Type and # of ESL Classes in School</th>
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<tr>
<th># Students Receiving ESL Help</th>
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<th>School Average SES</th>
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<th>School Average Ability/Achievement</th>
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Part 2: SUMMARY TEST INFORMATION

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<th>Total # Students Tested</th>
<th>M</th>
<th>F</th>
<th>Mean Age</th>
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<tr>
<th>Gr. 5</th>
<th>M</th>
<th>F</th>
<th>Mean Age</th>
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<th>Gr. 6</th>
<th>M</th>
<th>F</th>
<th>Mean Age</th>
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<th>Ethnic Group</th>
<th>total</th>
<th>M</th>
<th>Xage</th>
<th>F</th>
<th>Xage</th>
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<th>total</th>
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<th>Xage</th>
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<th>Xage</th>
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APPENDIX D: SELF-DESCRIPTION QUESTIONNAIRE-1 (SDQ-1)
SELF-DESCRIPTION 
QUESTIONNAIRE-I

SDQ

Your Name: ____________________________ Circle one: Boy Girl
School: _____________________________ Grade: ______ Age: ______
Teacher: ____________________________ Date: __________

This is a chance to look at yourself. It is not a test. There are no right answers, and everyone will have different answers. Be sure that your answers show how you feel about yourself. PLEASE DO NOT TALK ABOUT YOUR ANSWERS WITH ANYONE ELSE. We will keep your answers private and not show them to anyone.

When you are ready to begin, please read each sentence and choose an answer. (You may read quietly to yourself as I read aloud.) There are five possible answers for each question: "True," "False," and three answers in between. There are five boxes next to each sentence, one for each of the answers. The answers are written at the top of the boxes. Choose your answer to a sentence and make a check mark in the box under the answer you choose. DO NOT say your answer out loud or talk about it with anyone else.

Before you start, there are three examples below. A student, Bob, has already answered two of these sentences to show you how to do it. In the third example you must choose your own answer and put in your own check mark.

EXAMPLES

1. I like to read comic books

   Bob checked the box under the answer "True." This means that he really likes to read comic books. If Bob did not like to read comic books very much, he would have answered "False" or "Mostly False."

2. In general, I am neat and tidy

   Bob answered "Sometimes False, Sometimes True," because he is not very neat, but he is not very messy either.

3. I like to watch TV

   For this sentence you have to choose the answer that is best for you. First you must decide if the sentence is "True," or "False," or somewhere in between. If you really like to watch TV a lot, you would answer "True" by making a check mark in the last box. If you hate watching TV, you would answer "False" by making a check mark in the first box. If your answer is somewhere in between, then you would choose one of the other three boxes.

If you want to change an answer you have marked, you should cross out the check mark and put a new check mark in another box on the same line.

For all the sentences be sure that your check mark is on the same line as the sentence you are answering. You should have one answer and only one answer for each sentence. Do not leave out any of the sentences. Once you have started, PLEASE DO NOT TALK. Turn over the page and begin.
<table>
<thead>
<tr>
<th>Statement</th>
<th>False</th>
<th>Mostly False</th>
<th>Sometimes False</th>
<th>Mostly True</th>
<th>True</th>
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</thead>
<tbody>
<tr>
<td>1. I am good looking</td>
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<td>2. I'm good at all SCHOOL SUBJECTS</td>
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<td>3. I can run fast</td>
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<td>4. I get good marks in READING</td>
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<td>5. My parents understand me</td>
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<td>6. I hate MATHEMATICS</td>
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<td>7. I have lots of friends</td>
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<td>8. I like the way I look</td>
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<td>9. I enjoy doing work in all SCHOOL SUBJECTS</td>
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<td>10. I like to run and play hard</td>
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<td>11. I like READING</td>
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<td>12. My parents are usually unhappy or disappointed with what I do</td>
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<td>13. Work in mathematics is easy for me</td>
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<td>14. I make friends easily</td>
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<td>15. I have a pleasant looking face</td>
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<td>16. I get good marks in all SCHOOL SUBJECTS</td>
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<td>17. I hate sports and games</td>
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<td>18. I'm good at READING</td>
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<td>19. I like my parents</td>
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<td>20. I look forward to MATHEMATICS</td>
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<td>21. Most kids have more friends than I do</td>
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<td>22. I am a nice looking person</td>
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<td>23. I hate all SCHOOL SUBJECTS</td>
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<td>24. I enjoy sports and games</td>
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<td>25. I am interested in READING</td>
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<td>26. My parents like me</td>
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<td>27. I get good marks in MATHEMATICS</td>
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<td>28. I get along with kids easily</td>
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<td>29. I do lots of important things</td>
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<td>30. I am ugly</td>
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<td>31. I learn things quickly in all SCHOOL SUBJECTS</td>
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<tr>
<td>32. I have good muscles</td>
<td>32</td>
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<tr>
<td>33. I am dumb at reading</td>
<td>33</td>
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<tr>
<td>34. If I have children of my own, I want to bring them up like my parents raised me</td>
<td>34</td>
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<td></td>
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<tr>
<td>35. I am interested in MATHEMATICS</td>
<td>35</td>
<td></td>
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<tr>
<td>36. I am easy to like</td>
<td>36</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>37. Overall, I am no good</td>
<td>37</td>
<td></td>
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<td></td>
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<tr>
<td>38. Other kids think I am good looking</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. I am interested in all SCHOOL SUBJECTS</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. I am good at sports</td>
<td>40</td>
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<td></td>
<td></td>
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<tr>
<td>41. I enjoy doing work in READING</td>
<td>41</td>
<td></td>
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<tr>
<td>42. My parents and I spend a lot of time together</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43. I learn things quickly in MATHEMATICS</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>44. Other kids want me to be their friend</td>
<td>44</td>
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<tr>
<td>45. In general, I like being the way I am</td>
<td>45</td>
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<tr>
<td>46. I have a good looking body</td>
<td>46</td>
<td></td>
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<tr>
<td>47. I am dumb in all SCHOOL SUBJECTS</td>
<td>47</td>
<td></td>
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<td></td>
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<tr>
<td>48. I can run a long way without stopping</td>
<td>48</td>
<td></td>
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<tr>
<td>49. Work in READING is easy for me</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. My parents are easy to talk to</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. I like MATHEMATICS</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. I have more friends than most other kids</td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<tr>
<td>53. Overall I have a lot to be proud of</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>54. I'm better looking than most of my friends</td>
<td></td>
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<tr>
<td>55. I look forward to all SCHOOL SUBJECTS</td>
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</tr>
<tr>
<td>56. I am a good athlete</td>
<td></td>
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<tr>
<td>57. I look forward to READING</td>
<td></td>
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<tr>
<td>58. I get along well with my parents</td>
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</tr>
<tr>
<td>59. I'm good at MATHEMATICS</td>
<td></td>
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<tr>
<td>60. I am popular with kids of my own age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61. I can't do anything right</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>62. I have nice features like nose, and eyes, and hair</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>63. Work in all SCHOOL SUBJECTS is easy for me</td>
<td></td>
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<td></td>
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<tr>
<td>64. I'm good at throwing a ball</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>65. I hate READING</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>66. My parents and I have a lot of fun together</td>
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</tr>
<tr>
<td>67. I can do things as well as most other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>68. I enjoy doing work in MATHEMATICS</td>
<td></td>
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</tr>
<tr>
<td>69. Most other kids like me</td>
<td></td>
<td></td>
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<tr>
<td>70. Other people think I am a good person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71. I like all SCHOOL SUBJECTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72. A lot of things about me are good</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73. I learn things quickly in READING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74. I'm as good as most other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75. I am dumb at MATHEMATICS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76. When I do something, I do it well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ESL Self-Concept: Its Relation to Teacher Perception and Academic Achievement

DIRECTIONS FOR COMPLETION OF THE SDQ - TEACHER QUESTIONNAIRE

(to accompany each teacher questionnaire and to be read to each teacher before its completion)

1. Please fill out the pertinent information on the front cover of the Self-Description Questionnaire regarding the child you are evaluating. This includes the child's name, sex, school, grade, age, and birthdate.

2. Please print your name and date the form in the spaces provided. Completion of the questionnaire signifies your consent to participate in this study.

Remember, finished questionnaires will be given a code to maintain the anonymity and confidentiality of all concerned. As participation is voluntary, you have the right to refuse to participate and you may withdraw from the study at any time.

3. Please do not discuss your evaluations with anyone else, as it may invalidate the results.

Then...

4. PLEASE EVALUATE THE PUPIL'S SELF-CONCEPT, USING YOUR PERCEPTIONS OF THE STUDENT'S OWN FEELINGS FOR EACH OF THE FOLLOWING STATEMENTS.

5. When you are finished, please seal all questionnaires in the envelope provided to ensure confidentiality. All questionnaires will be picked up from your school in one week on ________________________.

Thank you for your cooperation.

__________________________
D. Whittaker, Ph.D.
Associate Professor
Department of Educational Psychology and Special Education
228-5351

__________________________
Barbara Silver
Graduate Student
M.A. Program
School Psychology
SELF-DESCRIPTION
QUESTIONNAIRE - I

Child's Name: ___________________________ Circle one: Boy Girl

School: ___________________________ Grade: ____ Age: ____

Teacher: ___________________________ Date: ____________

Teacher's Signature: ___________________________ Child's Birthdate: ____________

This is a chance to look at yourself. It is not a test. There are no right answers, and everyone will have different answers. Be sure that your answers show how you feel about yourself. PLEASE DO NOT TALK ABOUT YOUR ANSWERS WITH ANYONE ELSE. We will keep your answers private and not show them to anyone.

When you are ready to begin, please read each sentence and choose an answer. (You may read quietly to yourself as I read aloud.) There are five possible answers for each question: "True," "False," and three answers in between. There are five boxes next to each sentence, one for each of the answers. The answers are written at the top of the boxes. Choose your answer to a sentence and make a check mark in the box under the answer you choose. DO NOT say your answer out loud or talk about it with anyone else.

Before you start, there are three examples below. A student, Bob, has already answered two of these sentences to show you how to do it. In the third example you must choose your own answer and put in your own check mark.

EXAMPLES

1. I like to read comic books ................. 1 [ ] [ ] [ ] [ ] True

Bob checked the box under the answer "True." This means that he really likes to read comic books. If Bob did not like to read comic books very much, he would have answered "FALSE" or "MOSTLY FALSE."

2. In general, I am neat and tidy ................. 2 [ ] [ ] [ ] [ ]

Bob answered "SOMETIMES FALSE, SOMETIMES TRUE," because he is not very neat, but he is not very messy either.

3. I like to watch TV ............................. 3 [ ] [ ] [ ] [ ]

For this sentence you have to choose the answer that is best for you. First you must decide if the sentence is "TRUE," or "FALSE," or somewhere in between. If you really like to watch TV, a lot, you would answer "TRUE," by making a check mark in the last box. If you hate watching TV, you would answer "FALSE" by making a check mark in the first box. If your answer is somewhere in between, then you would choose one of the other three boxes.

If you want to change an answer you have marked, you should cross out the check mark and put a new check mark in another box on the same line.

For all the sentences be sure that your check mark is on the same line as the sentence you are answering. You should have one answer and only one answer for each sentence. Do not leave out any of the sentences. Once you have started, PLEASE DO NOT TALK. Turn over the page and begin.
APPENDIX E: TEACHER REPORT OF STUDENT BACKGROUND AND GRADES
Child's Name: _________________________________

Birthdate: ______________  Age: __________________________

Teacher's Name: _______________________________________

School: ___________________  Grade: __________________________

Type of Class (circle):  Regular

ESL (full-time)

ESL / ELC / LAC (pull-out)

Canadian-born / Immigrant (circle):

Specify:

Country of Origin ______________

Ethnic Group ______________

Language(s) Spoken at Home ______________

Number of Years in Canada

parents ________ child ________

Age on Arrival in Canada ______________

Marks on last Report Card: If not given, please rate (A, B, C, D) or (1, 2, 3, 4)

Mathematics: ______________

Reading / or

Language Arts: ______________
APPENDIX F: DEFINITION OF SDQ-1 SCALES
The Physical Abilities scale measures a child's self-concept regarding his or her abilities in physical activities, sports, and games. Items in the Physical Abilities scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>I can run fast.</td>
</tr>
<tr>
<td>10.</td>
<td>I like to run and play hard.</td>
</tr>
<tr>
<td>24.</td>
<td>I enjoy sports and games.</td>
</tr>
<tr>
<td>32.</td>
<td>I have good muscles.</td>
</tr>
<tr>
<td>40.</td>
<td>I am good at sports.</td>
</tr>
<tr>
<td>48.</td>
<td>I can run a long way without stopping.</td>
</tr>
<tr>
<td>56.</td>
<td>I am a good athlete.</td>
</tr>
<tr>
<td>64.</td>
<td>I am good at throwing a ball.</td>
</tr>
</tbody>
</table>

Figure 2. Physical Abilities Scale

Items of the Physical Appearance scale reflect a child's self-concept regarding his or her physical attractiveness as compared with others, and the perception of how others think he or she looks. Items in the Physical Appearance scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am good looking.</td>
</tr>
<tr>
<td>8.</td>
<td>I like the way I look.</td>
</tr>
<tr>
<td>15.</td>
<td>I have a pleasant looking face.</td>
</tr>
<tr>
<td>22.</td>
<td>I am a nice looking person.</td>
</tr>
<tr>
<td>38.</td>
<td>Other kids think I am good looking.</td>
</tr>
<tr>
<td>46.</td>
<td>I have a good looking body.</td>
</tr>
<tr>
<td>54.</td>
<td>I am better looking than most of my friends.</td>
</tr>
<tr>
<td>62.</td>
<td>I have nice features like nose, and eyes, and hair.</td>
</tr>
</tbody>
</table>

Figure 3. Physical Appearance Scale

The Peer Relations scale measures the child's self-concept regarding his or her popularity with peers, how easily the child makes friends, and whether others want him or her as a friend. Items of the Peer Relations scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>I have lots of friends.</td>
</tr>
<tr>
<td>28.</td>
<td>I get along with kids easily.</td>
</tr>
<tr>
<td>36.</td>
<td>I am easy to like.</td>
</tr>
<tr>
<td>44.</td>
<td>Other kids want me to be their friend.</td>
</tr>
<tr>
<td>52.</td>
<td>I have more friends than most other kids.</td>
</tr>
<tr>
<td>60.</td>
<td>I am popular with kids my own age.</td>
</tr>
<tr>
<td>69.</td>
<td>Most other kids like me.</td>
</tr>
</tbody>
</table>

Figure 4. Peer Relations Scale
The Parent Relations scale reflects how well the child thinks he or she gets along with his or her parents, how well the child likes his or her parents, and the extent to which the child experiences parental acceptance and approval. Items of the Parent Relations scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>My parents understand me.</td>
</tr>
<tr>
<td>19.</td>
<td>I like my parents.</td>
</tr>
<tr>
<td>26.</td>
<td>My parents like me.</td>
</tr>
<tr>
<td>34.</td>
<td>If I have children of my own, I want to bring them up like my parents raised me.</td>
</tr>
<tr>
<td>42.</td>
<td>My parents and I spend a lot of time together.</td>
</tr>
<tr>
<td>50.</td>
<td>My parents are easy to talk to.</td>
</tr>
<tr>
<td>58.</td>
<td>I get along well with my parents.</td>
</tr>
<tr>
<td>66.</td>
<td>My parents and I have a lot of fun together.</td>
</tr>
</tbody>
</table>

Figure 5. Parent Relations Scale

The Reading scale reflects the child’s self-concept regarding his or her ability, enjoyment, and interest in reading. Items of the Reading scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>I get good marks in READING.</td>
</tr>
<tr>
<td>11.</td>
<td>I like READING.</td>
</tr>
<tr>
<td>18.</td>
<td>I am good at READING.</td>
</tr>
<tr>
<td>25.</td>
<td>I am interested in READING.</td>
</tr>
<tr>
<td>41.</td>
<td>I enjoy doing work in READING.</td>
</tr>
<tr>
<td>49.</td>
<td>Work in READING is easy for me.</td>
</tr>
<tr>
<td>57.</td>
<td>I look forward to READING.</td>
</tr>
<tr>
<td>73.</td>
<td>I learn things quickly in READING.</td>
</tr>
</tbody>
</table>

Figure 6. Reading Scale

The Mathematics scale measures the child’s self-concept regarding his or her ability, enjoyment, and interest in mathematics. Items of the Mathematics scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Work in MATHEMATICS is easy for me.</td>
</tr>
<tr>
<td>20.</td>
<td>I look forward to MATHEMATICS.</td>
</tr>
<tr>
<td>27.</td>
<td>I get good marks in MATHEMATICS.</td>
</tr>
<tr>
<td>35.</td>
<td>I am interested in MATHEMATICS.</td>
</tr>
<tr>
<td>43.</td>
<td>I learn things quickly in MATHEMATICS.</td>
</tr>
<tr>
<td>51.</td>
<td>I like MATHEMATICS.</td>
</tr>
<tr>
<td>59.</td>
<td>I am good at MATHEMATICS.</td>
</tr>
<tr>
<td>68.</td>
<td>I enjoy doing work in MATHEMATICS.</td>
</tr>
</tbody>
</table>

Figure 7. Mathematics Scale
The General-School scale measures the child's self-concept regarding his or her ability, enjoyment, and interest in school subjects. Items of the General-School scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I am good at all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>9</td>
<td>I enjoy doing work in all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>16</td>
<td>I get good marks in all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>31</td>
<td>I learn things quickly in all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>39</td>
<td>I am interested in all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>55</td>
<td>I look forward to all SCHOOL SUBJECTS.</td>
</tr>
<tr>
<td>63</td>
<td>Work in all SCHOOL SUBJECTS is easy for me.</td>
</tr>
<tr>
<td>71</td>
<td>I like all SCHOOL SUBJECTS.</td>
</tr>
</tbody>
</table>

Figure 8. General-School Scale

The General-Self scale reflects the child's perception of himself or herself as an affective, capable individual, proud of and satisfied with the way he or she is. Items of the General-Self scale are:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>I do lots of important things.</td>
</tr>
<tr>
<td>45</td>
<td>In general, I like being the way I am.</td>
</tr>
<tr>
<td>53</td>
<td>Overall I have a lot to be proud of.</td>
</tr>
<tr>
<td>67</td>
<td>I can do things as well as most other people.</td>
</tr>
<tr>
<td>70</td>
<td>Other people think I am a good person.</td>
</tr>
<tr>
<td>72</td>
<td>A lot of things about me are good.</td>
</tr>
<tr>
<td>74</td>
<td>I'm as good as most other people.</td>
</tr>
<tr>
<td>76</td>
<td>When I do something, I do it well.</td>
</tr>
</tbody>
</table>

Figure 9. General-Self Scale
APPENDIX G:  SDQ-1 SCORING AND PROFILE BOOKLET
Score Calculation and Summary

INDIVIDUAL SCALE SCORES: For each scale, write the scores for the items listed in the blanks beside the item numbers. Sum the item scores within each scale and write the total raw score in the blank provided below the item scores.

<table>
<thead>
<tr>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
<th>Item (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - (3.84)</td>
<td>1 - (3.53)</td>
<td>7 - (4.46)</td>
<td>5 - (4.38)</td>
<td>4 - (3.78)</td>
<td>13 - (3.52)</td>
<td>2 - (3.35)</td>
<td>29 - (3.74)</td>
</tr>
<tr>
<td>9 - (4.14)</td>
<td>8 - (3.64)</td>
<td>14 - (4.01)</td>
<td>19 - (4.80)</td>
<td>11 - (3.96)</td>
<td>20 - (3.23)</td>
<td>9 - (3.56)</td>
<td>45 - (4.35)</td>
</tr>
<tr>
<td>24 - (4.66)</td>
<td>15 - (3.39)</td>
<td>28 - (4.10)</td>
<td>26 - (4.79)</td>
<td>18 - (3.99)</td>
<td>27 - (3.75)</td>
<td>16 - (3.42)</td>
<td>53 - (4.22)</td>
</tr>
<tr>
<td>32 - (3.71)</td>
<td>22 - (3.43)</td>
<td>36 - (3.73)</td>
<td>34 - (4.30)</td>
<td>25 - (3.98)</td>
<td>35 - (3.64)</td>
<td>31 - (3.77)</td>
<td>67 - (4.22)</td>
</tr>
<tr>
<td>40 - (4.28)</td>
<td>38 - (3.23)</td>
<td>44 - (3.98)</td>
<td>42 - (4.10)</td>
<td>41 - (3.87)</td>
<td>43 - (3.76)</td>
<td>39 - (3.79)</td>
<td>70 - (4.06)</td>
</tr>
<tr>
<td>48 - (3.82)</td>
<td>46 - (3.42)</td>
<td>52 - (3.35)</td>
<td>50 - (4.27)</td>
<td>49 - (3.94)</td>
<td>51 - (3.62)</td>
<td>55 - (3.64)</td>
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RAW SCALE TOTALS

TOTAL NONACADEMIC: Copy the Raw Scale Totals for Physical Abilities, Physical Appearance, Peer Relations, and Parent Relations into the blanks provided below. Sum these scores and divide by 4 to get the Total Nonacademic raw score.

TOTAL ACADEMIC: Copy the Raw Scale Totals for Reading, Mathematics, and General-School into the blanks provided below. Sum these scores and divide by 3 to get the Total Academic raw score.

TOTAL SELF: Copy the Total Nonacademic and Total Academic raw scores into the blanks provided below. Sum these scores and divide by 2 to get the Total Self raw score.

CONTROL SCORES (See Appendix A of the Manual for instructions on calculating Control raw scores.)

*Substitute the item mean for missing responses only if three or fewer responses are left blank.
T-Score Profile

Directions: Transfer the raw scores for the individual and total scales (and control scores) from page 2 to the spaces provided below the profile. Then, convert the raw scores to percentile ranks and T scores using the tables in Appendices A and B of the Manual. Record these values in the spaces provided and plot the T scores on the profile.

*General-Self norms are not available for grades 2-4.

Note: T scores falling in the shaded area (i.e., T scores of 50 or above) represent above average self-concept; however, because of the skewed distribution of the scores, T scores above 50 are not readily interpretable.
Control Score Calculation

Control Score 1:
Inconsistency on
Correlated Item Pairs

Control Score 2:
Consistency on
Uncorrelated Item Pairs

Control Score 3 - Noncontingent Summary
Write the values of Control Score 2 and Control Score 1 in the appropriate blanks below. Subtract Control Score 1 from Control Score 2. Write the result in the blank labeled Control Score 3.

Control Scores 4 and 5: Before entering the item values, reverse the direction of the scores so that 1 = True, 2 = Mostly True, 3 = Sometimes False/Sometimes True, 4 = Mostly False, and 5 = False.

Total Absolute Value

CONTROL SCORE 4
Negativity Bias

CONTROL SCORE 5
Positivity Bias

Control Score 6 - Individual Profile Variation:
Calculate the standard deviation of the original seven scales (Physical Abilities, Physical Appearance, Peer Relations, Parent Relations, Reading, Math, and General-School).

APPENDIX H: PEARSON PRODUCT MOMENT CORRELATIONS FOR ESL STUDENT SELF-CONCEPT, TEACHER PERCEPTION, AND ACADEMIC ACHIEVEMENT (24 x 24 Matrix)
Table H-1

Pearson Product-Moment Correlations for ESL Student Self-Concept, Teacher Perception, and Academic Achievement

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Note. N=57 student ratings and 57 teacher ratings. Correlations are rounded to two decimal places. Correlational directions involving academic achievement (RMARK and MMARK) are reversed to parallel data collection on the SDQ-1. Correlations in boldface refer to student-teacher agreement on matching self-concepts.

* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
Table H-2

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Note. N=57 student ratings and 57 teacher ratings
Correlations are rounded to two decimal places. Correlational directions involving academic achievement (RMARK and MMARK) are reversed to parallel data collection on the SDQ-1. Correlations in boldface refer to student-teacher agreement on matching self-concepts.

* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
Table H-3

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Note. N=57 student ratings and 57 teacher ratings. Correlations are rounded to two decimal places. Correlational directions involving academic achievement (RMARK and MMARK) are reversed to parallel data collection on the SDQ-1. Correlations in boldface refer to student-teacher agreement on matching self-concepts.

* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level
Table H-4

Pearson Product-Moment Correlations for ESL Student Self-Concept, Teacher Perception, and Academic Achievement (continued...)

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TTOTSLF.80*** .89*** 1.00
RMARK  .23*  .58*** .51*** 1.00
MMARK  .31** .68*** .61*** .46*** 1.00

Note. N=57 student ratings and 57 teacher ratings
Correlations are rounded to two decimal places. Correlational
directions involving academic achievement (RMARK and MMARK) are
reversed to parallel data collection on the SDQ-1. Correlations in
boldface refer to student-teacher agreement on matching self-concepts.
* Significant 'trend' at the .05 level
** Significant at the .01 level
*** Significant at the .001 level